PRODUCTION PROGRAM

DEBEM®

INDUSTRIAL PUMPS
SINCE 1982

FDA compliant

Made in Italy

INDEX

PRODUCTION PROGRAM

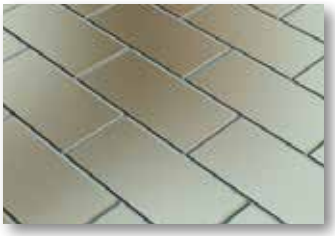
APPLICATIONS*

Mechanical industry

Biodiesel industry

Chemical industry

Food industry, sugar and dairy factory



Ceramic industry

Naval and petrochemical industry

Textile and leather industry

Paint and vanish

Liquid foodstuffs

Cosmetic industry

Resins industry

Pulp and paper

Pharmaceutical industry

Mining industry

Lubricating industry

Metalworking industry

Waste treatment industry

Construction industry

Adhesives industry

Inks and print

Dyeing and laundry

Agricolture and biogas

Galvanic industry

Automotive industry

* Only the main sectors are listed, there are more ways to use the Debem products

ABOUT US

AN IDEAL

A clear idea in mind:
to design **innovative**
high-tech pumps with components and **materials capable of withstanding** even the most testing and aggressive conditions.
Easy-to-install, high peformance pumps.
Reliable, long-lasting operation.

MORE THAN 30 YEARS AT YOUR SERVICE

Debem has been operating in the liquid transfer sector for more than 30 years.
A pioneering business specialising in industrial pumps for highly corrosive and aggressive applications.

The entire company philosophy hinges on close **cooperation** with the **end user** and **customer feedback**, thus establishing a **highly-effective technological design and development system** for products and services that has gained the approval of an increasing number of leading players in various sectors.

WAREHOUSE AND ASSEMBLY

A **management system** that **controls** the **minimum stock** of every **component** and **preassembled part** of all pumps in the catalogue means that when receiving an order Debem can advise **product availability** in real time with **fast assembly** and certain delivery times.

THE QUALITY MANAGEMENT SYSTEM

The certified Quality Management System is the basic tool used by Management in establishing the **Corporate Quality Policy**, aimed at **complete Customer satisfaction** and demonstrable ability to provide products/services that meet Customer and applicable regulatory requirements.

The quality management system is certified to **UNI EN ISO 9001** and for DEBEM represents a point of both arrival and departure:
ARRIVAL: because the corporate quality system is an organisational and management tool developed in-house.
DEPARTURE: because designing the quality system has stimulated a phase of analysis that will lead to the establishment of new improvement and growth targets.

CUBIC - BOXER - FOODBOXER

MAIN FEATURES:

Available in PP, PVDF/ECTFE, ALUMINIUM and AISI 316 STAINLESS STEEL;

Use in potentially-explosive atmospheres (ATEX zone 1-2 certification)**;**

Suitable for demanding applications and high-humidity environments**;**

Dry operation;

Dry self-priming;

Actuated using non-lubricated air;

Stall-prevention pneumatic circuit;

Adjustable flow rate and head;

Fine tuning of motor speed at constant pressure;

Twin-manifold option (two suction and two delivery)**;**

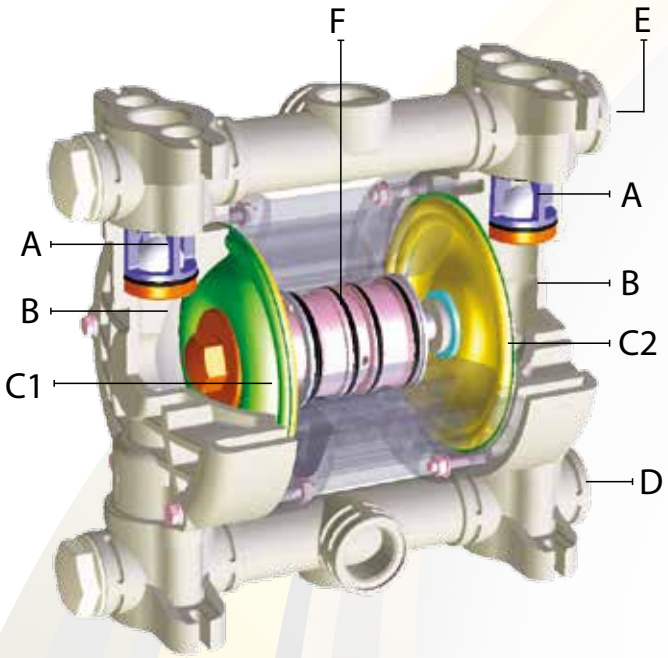
Bench or ceiling installation;

Three suction and delivery positions;

User-friendly maintenance and parts replacement;

Excellent performance and value for money.

Max. operating temperature:
PP min +3°C/max +65°C
PVDF min +3°C/max +95°C
Aisi 316 min +3°C/max +95°C
Alu min +3°C/max +95°C



A = ball valves
B = pumping chamber
C1 = product-side diaphragm
C2 = air-side diaphragm
D = suction manifold
E = delivery manifold
F = pneumatic exchangers

CUBIC mini diaphragm pumps, **BOXER** and **FOOD-BOXER** diaphragm pumps are characterized by exceptional performance, power and strength, making them ideal for pumping liquids with high apparent viscosity even if containing suspended solids.

The **stall-prevention** pneumatic system assures a safe pump running and it does **not need lubricated air**.

Self-priming dry capacity even with considerable suction head, **fine tuning of speed** without pressure loss and the **possibility of dry operation without suffering damage** mean that these pumps offer unrivalled versatility. In addition, the huge choice of construction materials allows selection of optimum chemical compatibility with the fluid and/or environment without neglecting the temperature range. They are specifically designed for **demanding applications with high humidity or in potentially explosive atmospheres (ATEX certification)**.

BOXER PLASTIC

II 2/2GD c IIB T135°C (zone 1)
II 3/3GD c IIB T135°C (zone 2)

The plastic BOXER range is designed for the chemical industry's most demanding applications including highly-aggressive liquids and acids.

Materials:	**PP - PVDF**
Self-priming capacity:	**max 6m**
Max. head:	**70m**
Max. flow rate:	**30 ÷ 900 l/min**

BOXER METAL

II 2/2GD c IIB T135°C (zone 1)
II 3/3GD c IIB T135°C (zone 2)

The metal BOXER range is designed for demanding applications throughout the paint sector and for solvent-based liquids.

Materials:	**Alu - AISI 316**
Self-priming capacity:	**max 6m**
Max. head:	**70m**
Max. flow rate:	**30 ÷ 900 l/min**

CUBIC PUMPS

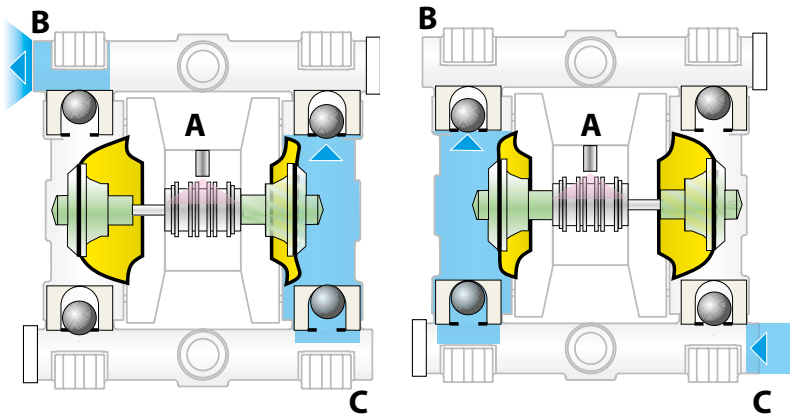
II 2/2GD c IIB T135°C (zone 1)
II 3/3GD c IIB T135°C (zone 2)

This compact range with reduced footprint can be used in banks where space is at a premium.

Materials:	**PP - ECTFE**
Self-priming capacity:	**max 3m**
Max. head:	**70m**
Max. flow rate:	**5 ÷ 17 l/min**

HOW IT WORKS

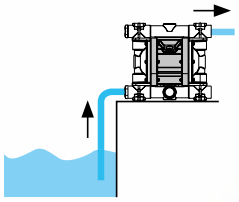
The compressed air introduced by the pneumatic exchanger (**A**) behind one of the two diaphragms generates compression and pushes the product into the delivery duct (**B**), at the same time the opposing diaphragm that is integral with the exchanger shaft creates a vacuum and intakes the fluid (**C**). Once the stroke has been completed, the pneumatic exchanger diverts the compressed air behind the opposing diaphragm and the cycle is reversed.



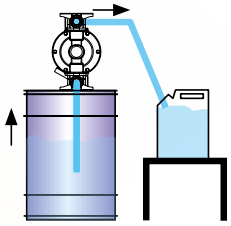
INSTALLATION

The pumps **must be installed vertically** with special bolts on the feet or holes provided.

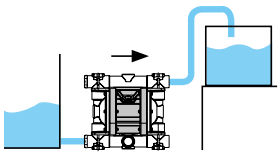
Self-priming



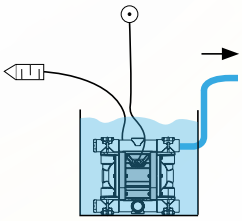
Drum transfer



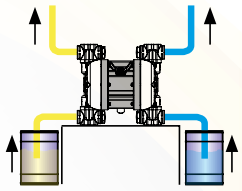
Positive suction head



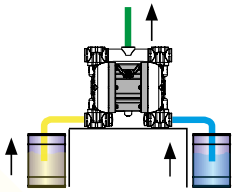
Immersed



Twin suction and delivery manifold



Twin suction manifold



PNEUMATIC EXCHANGERS

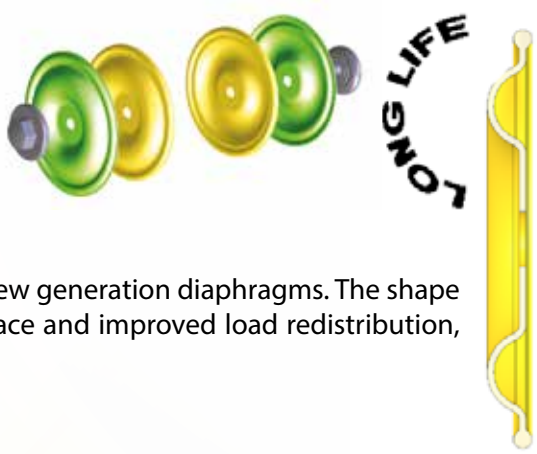
The heart of an air-operated diaphragm pump consists of the pneumatic exchanger that DEBEM has succeeded in developing and innovating in a revolutionary manner, patenting the most durable and reliable system the market currently has to offer. This device introduces compressed air to alter the pressure balance of the diaphragms assisted by a stall-prevention circuit that ensures optimum performance even under the most critical conditions or with low-pressure compressed air supplies (min 2 bar).
Air-chamber volumes and airways are carefully designed to optimise consumption.
Speed and flow rate can be easily adjusted by regulating air flow, whilst head can be adjusted as a function of compressed air supply pressure.

CUBIC - BOXER - FOODBOXER

THE COMPONENTS

It has an extremely compact footprint and the small number of components ensures exceptional sturdiness and service life even under the most exacting conditions.
The air passages are carefully designed and optimised to prevent the formation of ice even in low-temperature and high-head applications.
The DEBEM pneumatic exchanger is an integrated system with a single central cartridge that does not require additional external components.

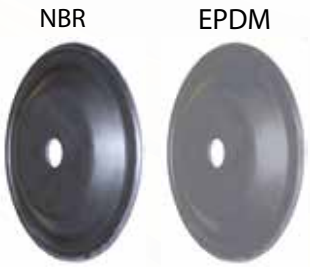
DEBEM DIAPHRAGMS



Diaphragms are the components subjected to greatest stress during suction and pumping, when they must also withstand the liquid's chemical attack and temperature.
Correct assessment and selection is therefore crucial for diaphragm service life, investment decisions and maintenance costs.
A modern process of design, destructive testing and careful analysis of results has enabled DEBEM to develop LONG LIFE new generation diaphragms. The shape and profile of these products provides a greater working surface and improved load redistribution, thus reducing material stress and yield to a minimum.

RUBBER DIAPHRAGMS

They are made from rubber compounds with special additives that improve chemical properties as well as mechanical bending and strength characteristics. These diaphragms have a nylon backing cloth that improves stress distribution:



NBR: inexpensive and particularly suited to petroleum- and oil-based liquids;

EPDM: good acid, alkaline and abrasion resistance, as well as good flexibility even at low temperatures.

CUBIC - BOXER - FOODBOXER

THERMOPLASTIC DIAPHRAGM

They are made from thermoplastic polymers that provide high mechanical stress resistance and distribution.

HYTREL SANTOPRENE

HYTREL:
exceptional strength and elastic return; high resistance to creeping, impact and stress when flexed; excellent flexibility at low temperatures, while maintaining most of its properties at high temperatures. It is also resistant to the attack of many industrial chemicals, oils and solvents;

SANTOPRENE®:
excellent acid and alkaline resistance, high flexural strength and good abrasion resistance.

PTFE DIAPHRAGM

PTFE

This material is noted for its excellent resistance to high temperatures, chemicals and corrosive agents. DEBEM PTFE diaphragms are subjected to a double heat treatment in order to increase elasticity and service life. Each batch undergoes random destructive testing in order to verify its performance.

This diaphragm can be fitted together with one of those previously mentioned in order to increase resistance to the liquid's corrosive chemicals and temperature.

Debem has filed with the **TÜV NORD** certification body the documentation certifying **ATEX** compliance pursuant to Directive 94/9/CE for its ranges of **BOXER** and **CUBIC** pneumatic diaphragm pumps and **EQUAFLUX** automatic pulsation dampeners, as described in the following table.
They are manufactured in a **STANDARD**, class **II 3/3GD c IIB T135°C** version or - upon request - with special construction materials in a **CONDUCT**, class **II 2/2GD c IIB T135°C** version.
The equipment user is responsible for classifying its area of use. On the other hand, the manufacturer shall identify and affix the certification class of the manufactured equipment.

PRODUCT SERIES	DESCRIPTION	CERTIFICATION CLASS
STANDARD version - CUBIC - BOXER - FOODBOXER - EQUAFLUX	Made from non-conductive plastic and/or with non-conductive centre casing or from metal with non-conductive centre casing.	II 3/3 GD c IIB T135°C (for zone 2)
CONDUCT version - CUBIC - BOXER - FOODBOXER - EQUAFLUX	Built with pump casings and/or manifolds (PP + carbon fibre, ECTFE/PVDF + carbon fibre), made from conductive plastic and metal materials (aluminium, stainless steel).	II 2/2 GD c IIB T135°C (for zone 1)

TÜV NORD
TÜV NORD CERT GmbH
Dossier stored
Directive 94/9/EG

Safety symbols in accordance with DIN 40012 Annex A

II **2/2 GD**: Surface equipment for use in zones in which gases, vapours or mists and clouds of combustible dust in air occur in normal operation occasionally (EN 1127-1 subclause 6.3) in both the external and internal zone.

II **3/3 GD**: Surface equipment for use in zones in which gases, vapours or mists and clouds of combustible dust in air are not likely to occur in normal operation or may occur rarely for a short period only in both the external and internal zone.

c: Equipment protected by constructional safety (EN 13463-5).

IIB: Exclusion of the following products: Hydrogen, acetylene, carbon disulphide.

T 135°: Allowed temperature class. The user shall process fluids in accordance with the corresponding temperature classification, bearing in mind the instructions in the manual and the provisions of current legislation. The user shall also consider the ignition temperatures of gases, vapours or mists and clouds of combustible dust in air in the area of use.

CHEMICAL COMPATIBILITY

The type of liquid, temperature and working environment are factors to be considered when deciding on the best choice of construction materials for the pump and its **correct chemical compatibility**.
Some examples are given in the following table:

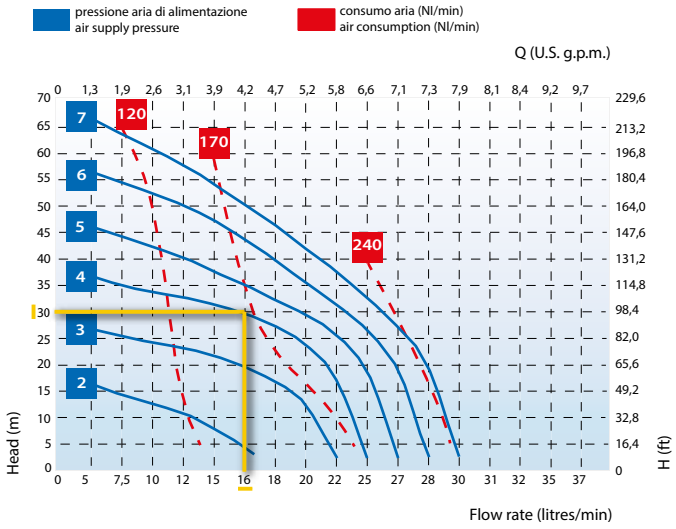
SUBSTANCE	Polypropylene	PVDF ECTFE (Halair®)	Aluminium	Stainles Steel AISI 316	NBR (Perbunan®)	EPDM (Dutral®)	PTFE (Teflon®)	PPS-V (Ryton®)	FPM (Viton®)	Santoprene®	PE-UHMW (Poleszene®)
Acetaldehyde	A1	D	B	A	D	A	A	A	D	-	B
Acetamide	A1	C	A	A	A	A	A	A	B	-	-
Vinyl acetate	B1	A2	A1	B	D	B2	A2	-	A1	-	D
Acetylene	A1	A	A	A	B	A	A	A	A	-	-
Vinegar	A	B	D	A	B	A	A	A	A	-	A
Acetone	A	D	A	A	D	A	A	A	D	A1	A2
Fatty acids	A	A	A	A	B	D	A	-	A	D	A

A = very good
B = good
C = poor, not recommended
D = severe etching, not recommended
- = information not available
1 = satisfactory up to 22°C (72°F)
2 = satisfactory up to 48°C (120°F)

For further information, please do not hesitate to contact DEBEM's technical service department.
We have obtained this information from reliable sources.
Debem has not performed any form of testing in this regard and therefore accepts no liability for the accuracy of the details provided.

DIAPHRAGM PUMPS

Example illustrating the graphic reading of the performance



Flow rate 16 l/min – Pump head 30 m/ca
Supply pressure: 4 bar
Air consumption: 170 Nl/min

Compressor table

Air consumption	Power approximated (compressor)
Nl/min	HP
50	0,5
100	1
200	2
250	2,5
350	3,5
450	4,5
550	5,5
850	8,5
1000	10
1500	15
2000	20
3500	30
4000	40

The actual power absorbed by the compressor is approximately 70% of the value indicated in the table.
It is recommended to use a compressor with a tank.

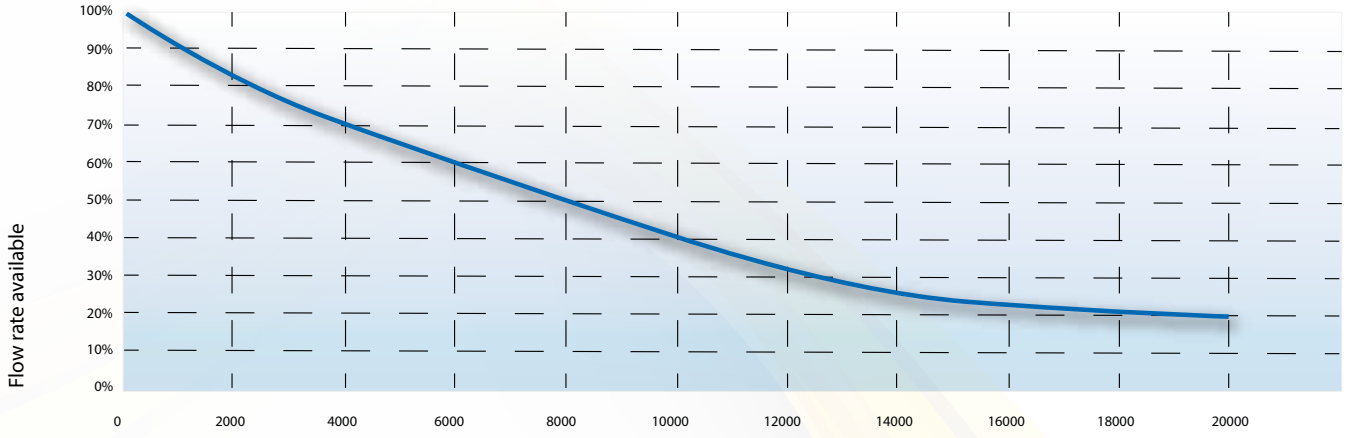
Displacement table

referred to the stroke complete with membrane

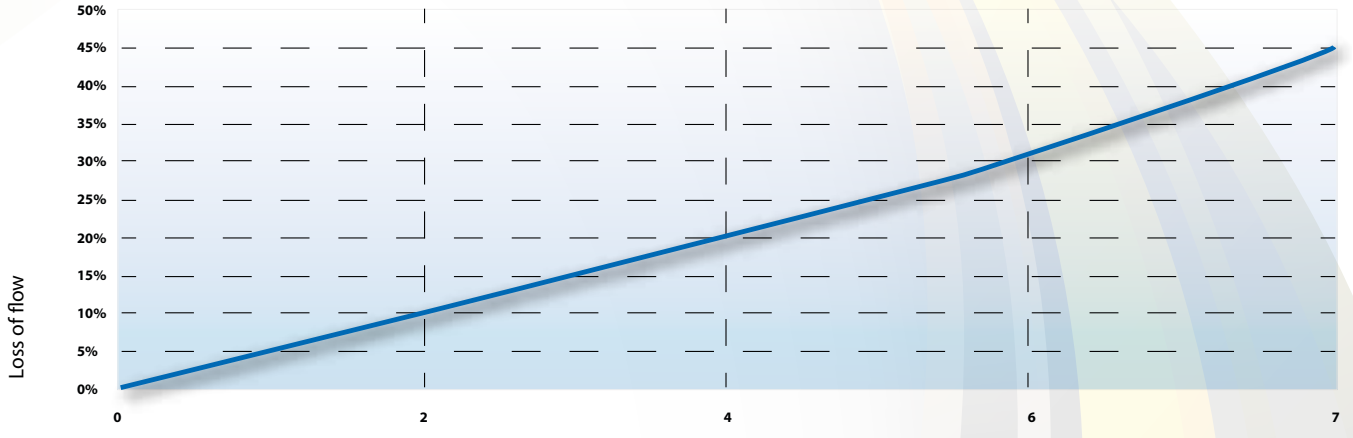
PUMP TYPE	DISPLACEMENT
MIDGETBOX	**3,2 cc**
CUBIC 15	10,3 cc
MICROBOXER	30 cc
MINIBOXER/B50	67 cc
BOXER 80/81	100 cc
BOXER 100	222 cc
BOXER 150	340 cc
BOXER 251	522 cc
BOXER 502/522	1.825 cc
BOXER 503	1.852 cc
EQUAFLUX 51	8 cc
EQUAFLUX 100	15 cc
EQUAFLUX 200	100 cc
EQUAFLUX 302/303	320 cc

Please note: when operating at FREE AIR FLOW conditions, the actual flow rate is much higher than the ratio between the number of cycles detected and the displacement due to the momentum.

Decrease in the flow rate relating to the viscosity



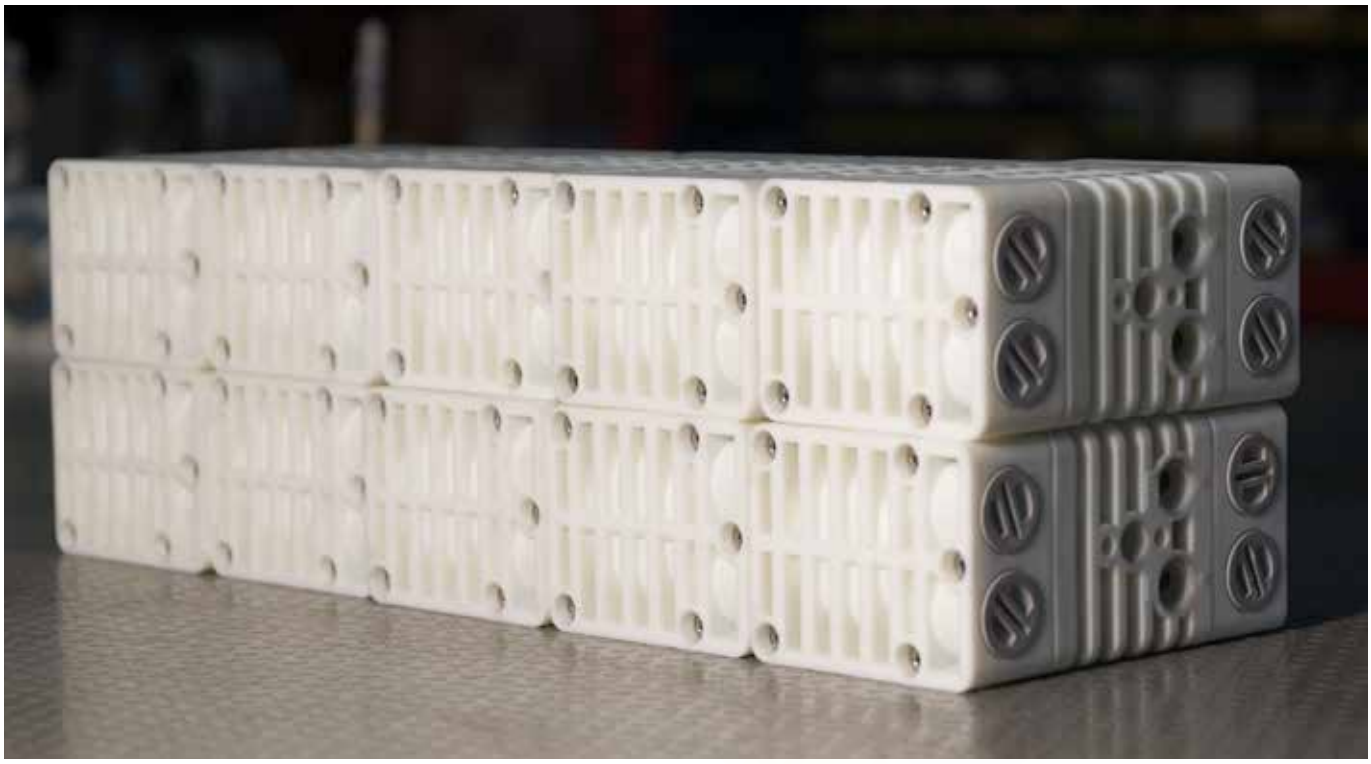
Boxer Pumps – Loss of flow capacity on the suction height

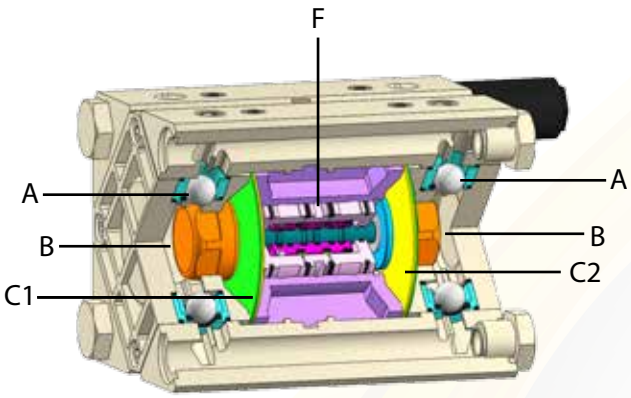


Loss of flow capacity in percentage relating to the suction height.

CUBIC

Cubic diaphragm pumps: high performance, power and sturdiness, suitable for pumping fluids with high apparent viscosity, even in the presence of suspended solids. Particularly suitable for small spaces.





Debem diaphragm pumps consist of a stall-prevention centrally-housed pneumatic exchangers. The new generation diaphragms (Long Life profile) are fitted to its shaft. At the two ends, the two pump casings house the ball valves and seats of the product suction and delivery duct.

A = ball valves
B = pumping chamber
C1 = product-side diaphragm
C2 = air-side diaphragm
F = pneumatic exchengers

PUMPS COMPOSITION CODES

CUBIC*

ex. **ICU15P-NTTPV- -**
Internal exchanger, Cubic 15, body PP, air side diaphragm NBR, fluid side diaphragm PTFE, balls PTFE, ball seats PP, O-Ring Viton

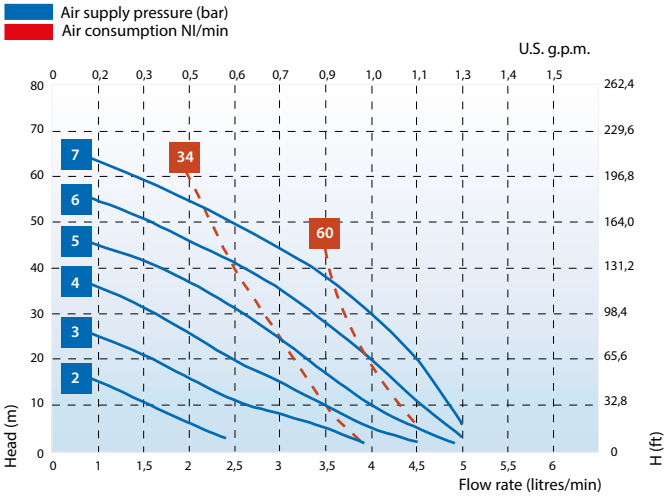
I	CU15	P -	N	T	T	P	V	-	-
Internal Exchanger	**Pump model**	**Pump body**	**Air side diaphragm**	**Fluid side diaphragm**	**Balls**	**Ball seats**	**O-Ring***	**Twin manifold**	**Conduct version**
I	**MID** - Midgetbox (only in PP/PP+CF) **CU15** - Cubic 15	**P** - Polypropylene **EC** - ECTFE + CF[2] **PC** - PP+CF	**N** - NBR	**T** - PTFE	**G** - Pyrex[1] **D** - EPDM[2] **A** - AISI 316 **T** - PTFE[2]	**R** - PPS-V **K** - PEEK[1] **P** - PP[2] **EC** - ECTFE[2] **A** - AISI 316[2]	**D** - EPDM[2] **V** - Viton[2] **N** - NBR[2] **T** - PTFE	**X**[2]	**C**

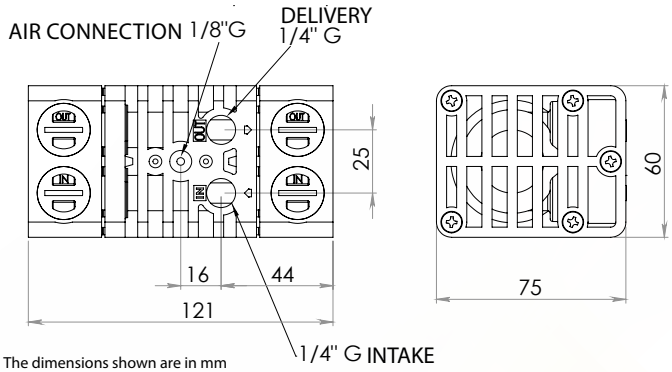
1 Only for MIDGETBOX
2 Only for CUBIC 15
* THE MIDGETBOX only mounted O-ring PTFE

MIDGETBOX

STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

PP





The dimensions shown are in mm

Intake/delivery connections	G 1/4"f
Air connection	G 1/8"f
Max. self-priming capacity**	3 m
Max. flow rate*	5 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids	0 mm

Construction materials and net weight	PP	0,5 Kg	65°C Max Temp.

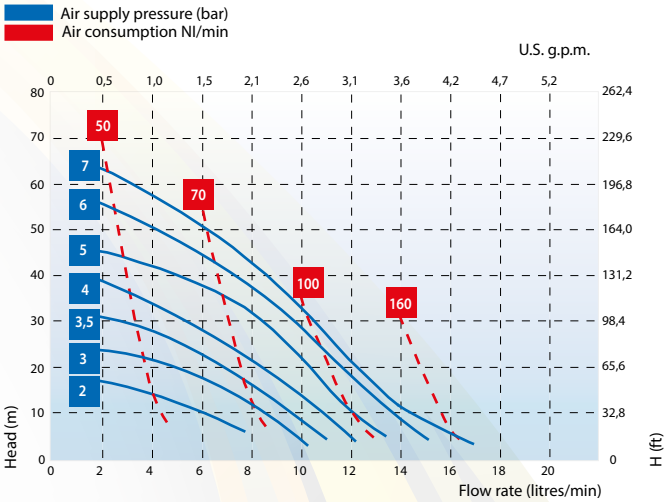
(*) NPT connections on request

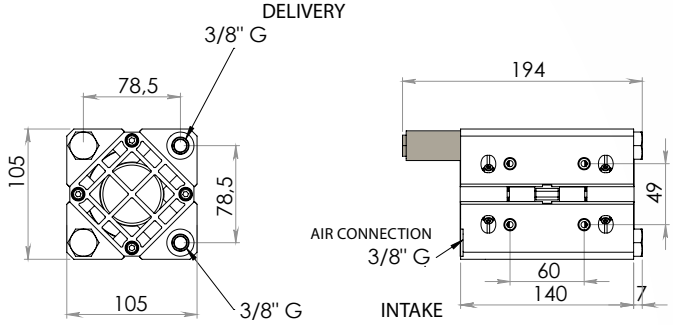
CUBIC 15

STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

PVDF

PP





The dimensions shown are in mm

Intake/delivery connections	G 3/8"f
Air connection	G 3/8"f
Max. self-priming capacity**	4 m
Max. flow rate*	17 l/min
Max. head*	70 m
Max. air supply pressure	7 bar
Max. diameter of passing solids	0,5 mm

Construction materials and net weight	**PP**	1 Kg	65°C Max Temp.
	ECTFE	1,5 Kg	95°C Max Temp.

*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material. ** The value depends on the configuration of the pump.

BOXER

Boxer diaphragm pumps:
high performance, high power and sturdiness.
Suitable for pumping fluids with high apparent viscosity, even in the presence of suspended solids.

PUMPS COMPOSITION CODES

BOXER

ex. **IB50-P-HTTPV--**
Internal Exchanger, Boxer 50, body PP, air side diaphragm Hytrel, fluid side diaphragm PTFE, balls PTFE, ball seats PP, O-Ring in Viton.

I_	B50 -_____	P_-	H_	T_	T_	P_	V_	-_	-_
Internal Exchanger	**Pump model**	**Pump body**	**Air side diaphragm**	**Fluid side diaphragm**	**Balls**	**Ball seats***	**O-Ring****	**Twin manifold**	**Conduct version**
I	**MICR** - Microboxer[1] **MIN** - Miniboxer[2] **B50** - Boxer 50[3] **B80** - Boxer 80[4] **B81** - Boxer 81[5] **B100** - Boxer 100 **B150** - Boxer 150 **B251** - Boxer 251 **B502** - Boxer 502[6] **B522** - Boxer 522[7] **B503** - Boxer 503	**P** - PP **PC** - PP + CF **FC** - PVDF + CF **AL** - ALU **A** - AISI 316	**H** - Hytrel **M** - Santoprene **D** - EPDM **N** - NBR	**T** - PTFE	**T** - PTFE **A** - AISI 316 **D** - EPDM **N** - NBR	**P** - Polypropylene **F** - PVDF **A** - AISI 316 **L** - Aluminium **I** - PE-UHMW **R** - PPS-V (only for BOXER 100 and BOXER 150)	**T** - PTFE **D** - EPDM **V** - Viton **N** - NBR	**X**	**C**

1 MICROBOXER only mounts internal membranes in HYTREL / SANTOPRENE
2 MINIBOXER inscription only on body in AISI 316
3 BOXER50 inscription only on body in PP - PP+CF - PVDF - ALU
4 BOXER80 inscription only on body in AISI 316
5 BOXER81 inscription only on body in PP - PP+CF - PVDF - ALU
6 BOXER502 inscription only on body in ALU - AISI 316
7 BOXER522 inscription only on body in PP - PP+CF - PVDF

* BOXER100/BOXER150 only mounts ball seats in PPS-V, not in aluminium
** BOXER503 in plastic cannot mount O-rings in PTFE, only in VITON or EPDM

MICROBOXER

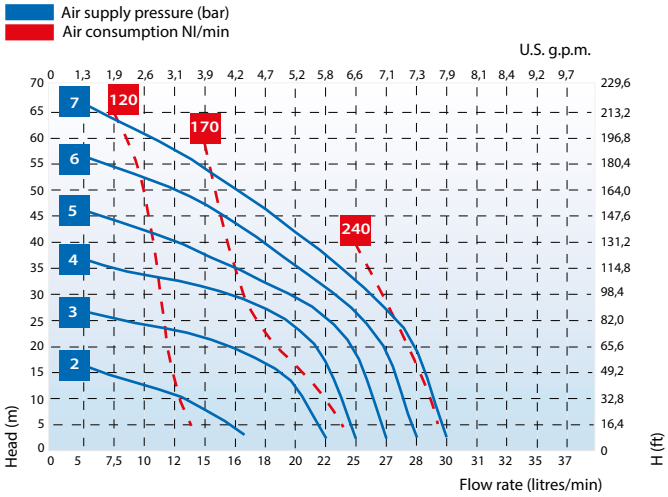
STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

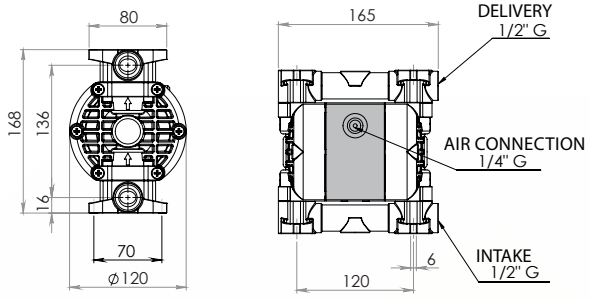
PVDF

Alu

Aisi 316

PP





The dimensions shown are in mm

Intake/delivery connections			G 1/2" f (*)
Air connection			G 1/4"f
Max. self-priming capacity**			6 m
Max. flow rate*			30 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			2 mm
Construction materials and net weight	PP	1,6 Kg	65°C Max Temp.
	PVDF	1,9 Kg	95°C Max Temp.
	Alu	2 Kg	95°C Max Temp.
	Aisi 316	3,8 Kg	95°C Max Temp.

(*) NPT connections on request

MINIBOXER - BOXER 50

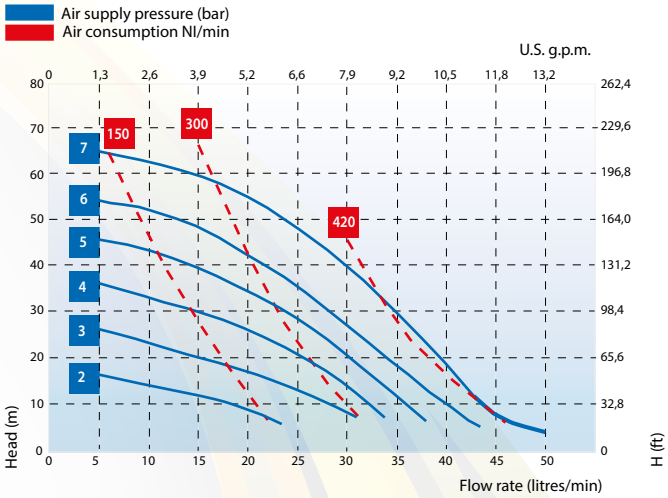
STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

PVDF

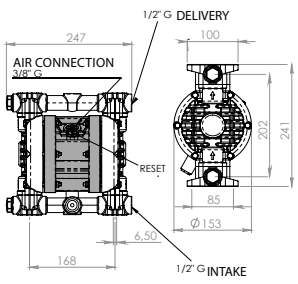
Alu

Aisi 316

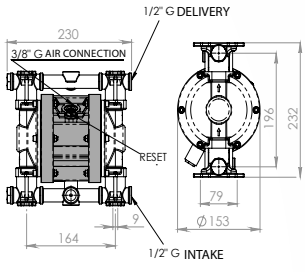
PP



B50



MINIBOXER Aisi 316



The dimensions shown are in mm

Intake/delivery connections			G 1/2"f o DN 15 (*)
Air connection			G 3/8"f
Max. self-priming capacity**			5 m
Max. flow rate*			50 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			4 mm
Construction materials and net weight	PP	3,6 Kg	65°C Max Temp.
	PVDF	4,2 Kg	95°C Max Temp.
	Alu	4 Kg	95°C Max Temp.
	Aisi 316	6,5 Kg	95°C Max Temp.

(*) NPT connections on request

*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material. ** The value depends on the configuration of the pump.

BOXER 80/81

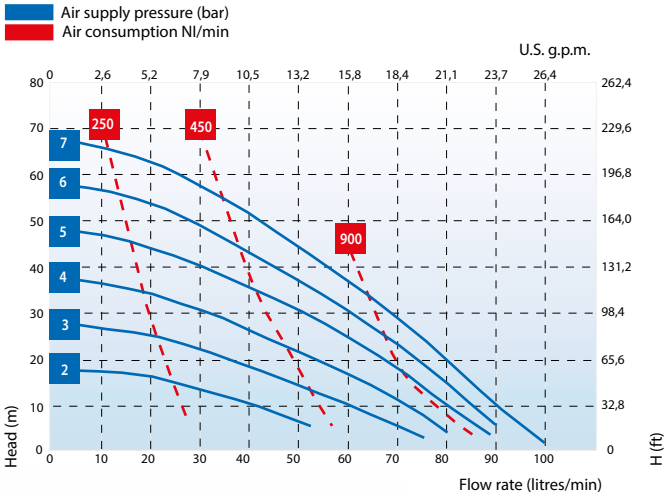
STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

PVDF

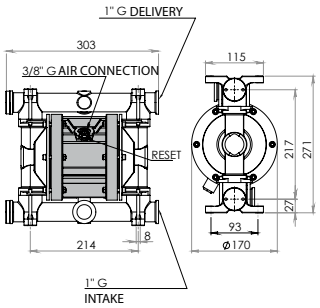
Alu

Aisi 316

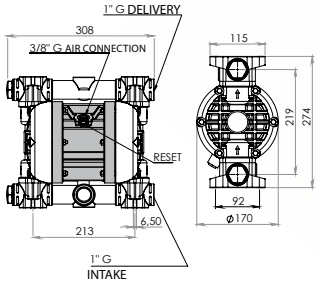
PP



B80



B81



The dimensions shown are in mm

Intake/delivery connections			G 1"f o DN 25 (*)
Air connection			G 3/8"f
Max. self-priming capacity**			6 m
Max. flow rate*			100 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			4 mm
Construction materials and net weight	PP	5 Kg	65°C Max Temp.
	PVDF	6,5 Kg	95°C Max Temp.
	Alu	6,5 Kg	95°C Max Temp.
	Aisi 316	10,5 Kg	95°C Max Temp.

(*) NPT connections on request

BOXER 100

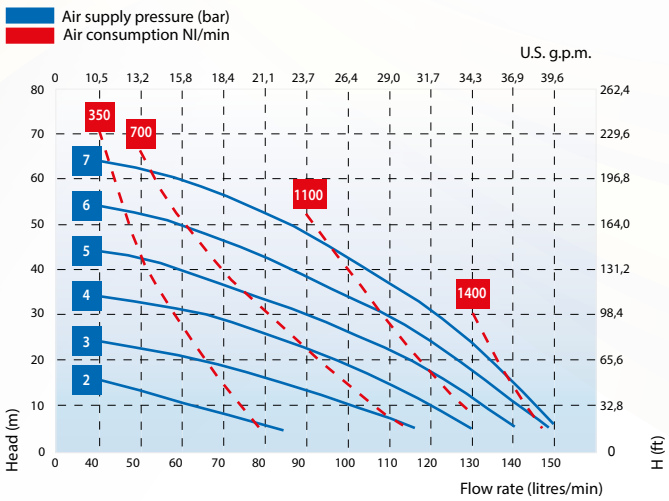
STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

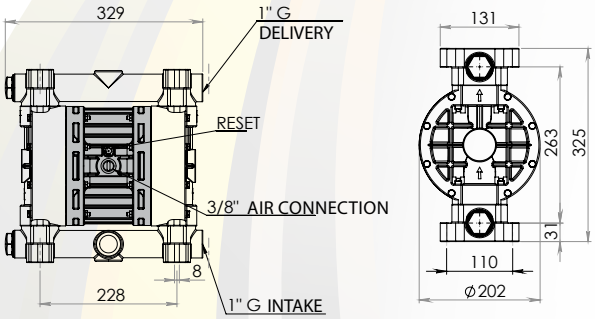
PVDF

Alu

Aisi 316

PP





The dimensions shown are in mm

Intake/delivery connections			G 1"f o DN 25 (*)
Air connection			G 3/8"f
Max. self-priming capacity**			5 m
Max. flow rate*			150 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			4 mm
Construction materials and net weight	PP	7,5 Kg	65°C Max Temp.
	PVDF	8,5 Kg	95°C Max Temp.
	Alu	8,2 Kg	95°C Max Temp.
	Aisi 316	11 Kg	95°C Max Temp.

(*) NPT connections on request

*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material. **The value depends on the configuration of the pump.

BOXER 150

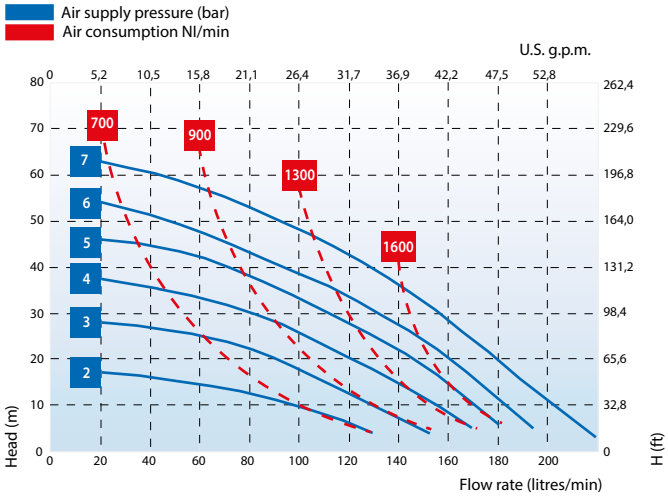
STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

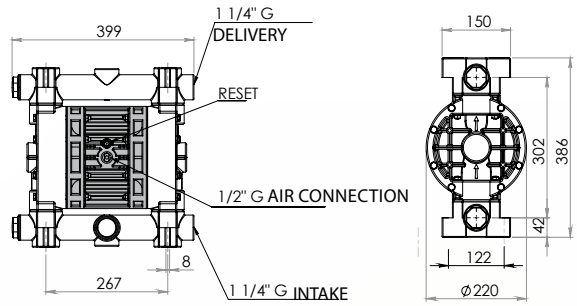
PVDF

Alu

Aisi 316

PP





The dimensions shown are in mm

Intake/delivery connections			G 1" 1/4 f o DN 32 (*)
Air connection			G 1/2" f
Max. self-priming capacity**			6 m
Max. flow rate*			220 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			5 mm
Construction materials and net weight	PP	12 Kg	65°C Max Temp.
	PVDF	14 Kg	95°C Max Temp.
	Alu	16 Kg	95°C Max Temp.
	Aisi 316	21 Kg	95°C Max Temp.

(*) NPT connections on request

BOXER 251

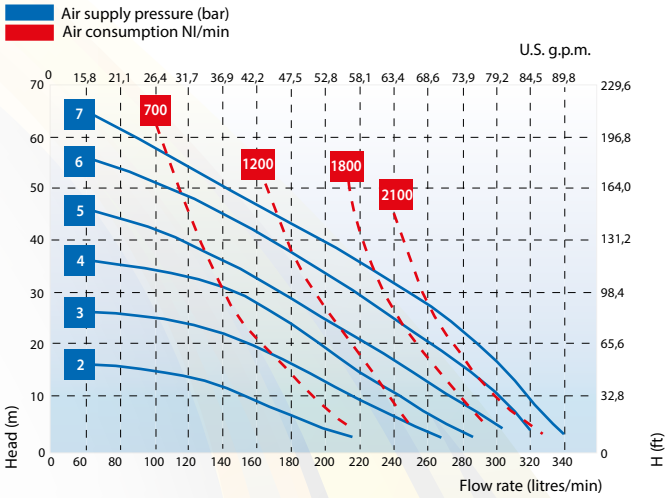
STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

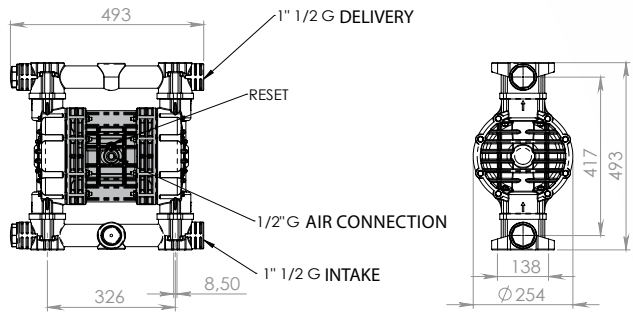
PVDF

Alu

Aisi 316

PP





The dimensions shown are in mm

Intake/delivery connections			G 1" 1/2 f o DN 40 (*)
Air connection			G 1/2" f
Max. self-priming capacity**			6 m
Max. flow rate*			340 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			6 mm
Construction materials and net weight	PP	16 Kg	65°C Max Temp.
	PVDF	20 Kg	95°C Max Temp.
	Alu	21 Kg	95°C Max Temp.
	Aisi 316	32 Kg	95°C Max Temp.

(*) NPT connections on request

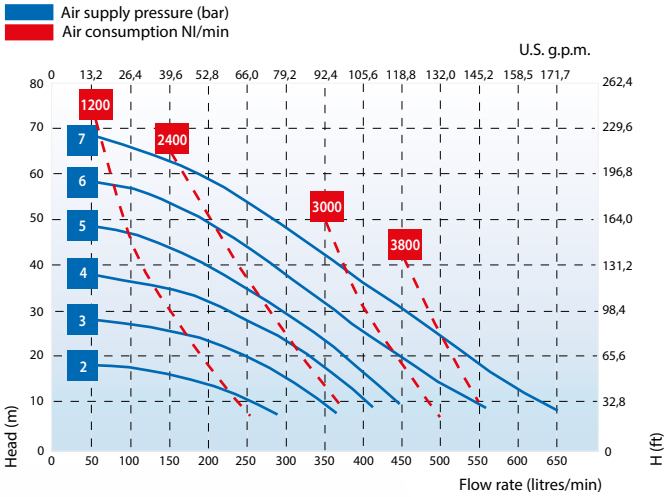
*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material. ** The value depends on the configuration of the pump.

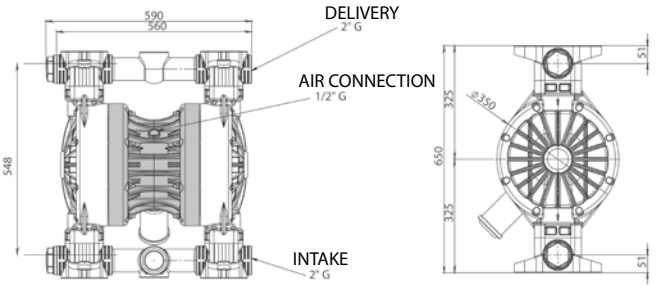
BOXER 522

STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

PVDF

PP





Intake/delivery connections			G 2" f o DN 50 (*)
Air connection			G 1/2" f
Max. self-priming capacity**			6 m
Max. flow rate*			650 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			8 mm
Construction materials and net weight	PP	38 Kg	65°C Max Temp.
	PVDF	45 Kg	95°C Max Temp.

(*) NPT connections on request

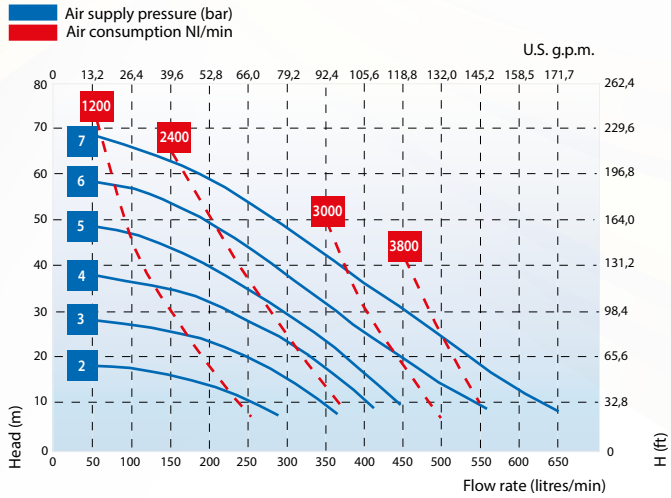
The dimensions shown are in mm

BOXER 502

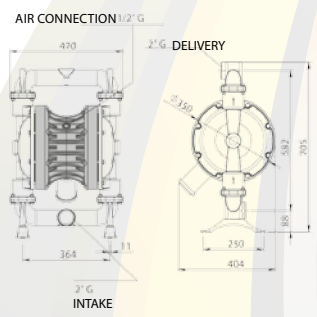
STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

Aisi 316

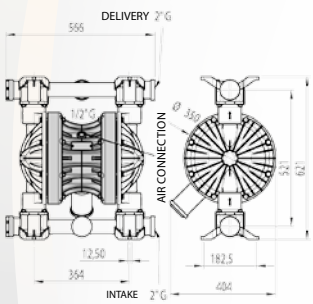
Alu



Aisi 316



Alu



Intake/delivery connections			G 2" f o DN 50 (*)
Air connection			G 1/2" f
Max. self-priming capacity**			6 m
Max. flow rate*			650 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			8 mm
Construction materials and net weight	Alu	49 Kg	95°C Max Temp.
	Aisi 316	54 Kg	95°C Max Temp.

(*) NPT connections on request

The dimensions shown are in mm

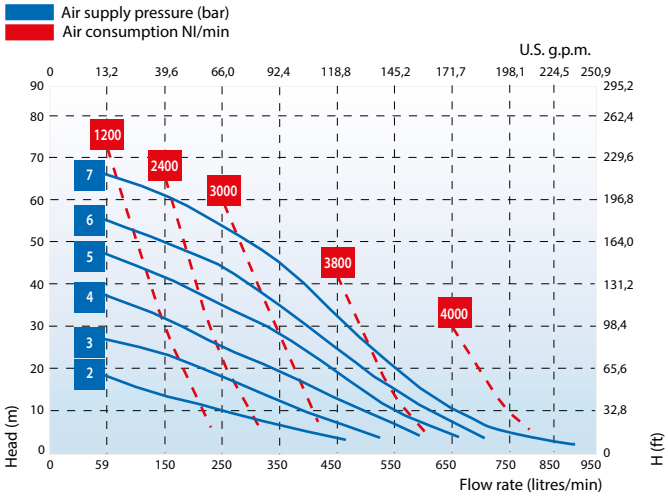
*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material. **The value depends on the configuration of the pump.

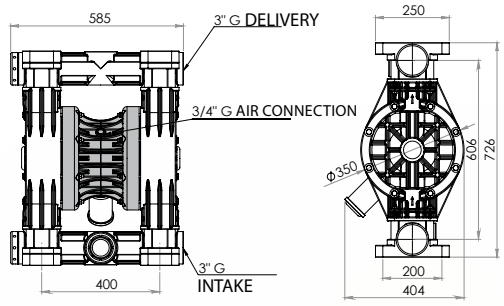
BOXER 503 plastic

STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

PVDF

PP





Intake/delivery connections			G 3" f o DN 80 (*)
Air connection			G 3/4" f
Max. self-priming capacity**			5 m
Max. flow rate*			900 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			10 mm
Construction materials and net weight	PP	50 Kg	65°C Max Temp.
	PVDF	67 Kg	95°C Max Temp.

(*) NPT connections on request

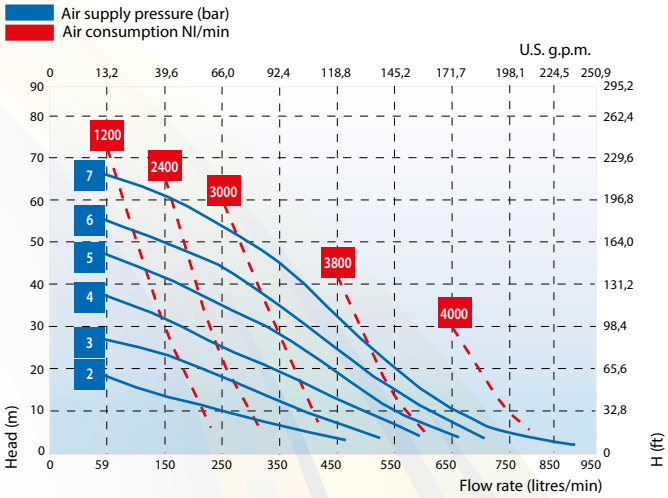
The dimensions shown are in mm

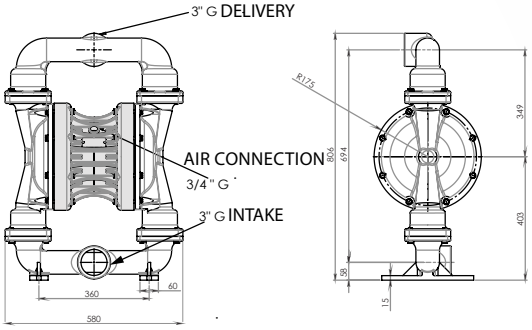
BOXER 503 metal

STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

Alu

Aisi 316





Intake/delivery connections			G 3" f o DN 80 (*)
Air connection			G 3/4" f
Max. self-priming capacity**			5 m
Max. flow rate*			900 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			10 mm
Construction materials and net weight	Alu	66 Kg	95°C Max Temp.
	Aisi 316	71 Kg	95°C Max Temp.

(*) NPT connections on request

The dimensions shown are in mm

*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material. ** The value depends on the configuration of the pump.

FOODBOXER

Debem FDA Foodboxer pumps are made of electro-polished stainless steel, and are ideal for the food, cosmetics and beverage industries in compliance with FDA requirements.
The parts in contact with the liquid are made exclusively of electro-polished AISI316 and PTFE FDA.







PUMPS COMPOSITION CODE

FOODBOXER

ex. FB50-A-HTAAT--
Foodboxer 50, body AISI 316, air side diaphragm Hytrel, fluid side diaphragm PTFE, balls AISI 316, ball seats AISI 316, O-Ring PTFE

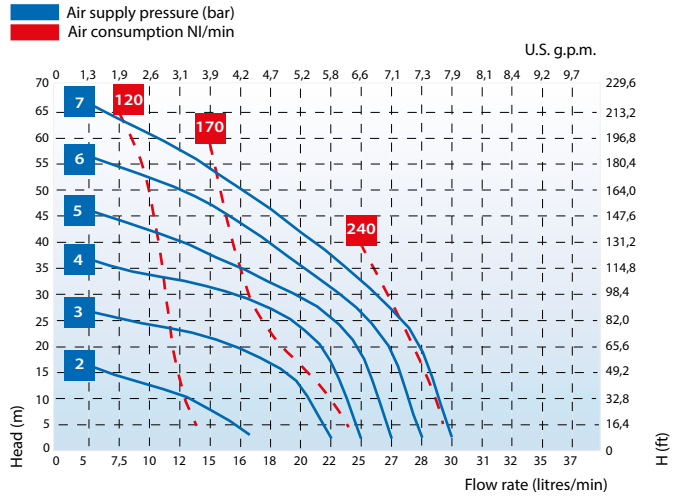
FB50 -	A -	H	T	A	A	T	-	-
Pump model	**Pump body**	**Air side diaphragm**	**Fluid side diaphragm**	**Balls**	**Ball seats**	**O-Ring**	**Twin manifold**	**Conduct version**
FB30 - Foodboxer 30 **FB50** - Foodboxer 50 **FB80** - Foodboxer 80 **FB100** - Foodboxer 100 **FB251** - Foodboxer 251 **FB502** - Foodboxer 502 **FB503** - Foodboxer 503	**A** - AISI 316	**H** - Hytrel	**T** - PTFE	**A** - AISI 316 **T** - PTFE	**A** - AISI 316	**T** - PTFE	**X**	**C**

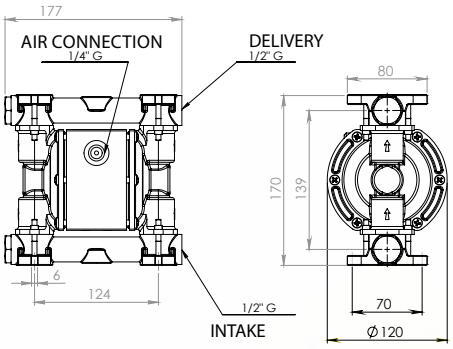
FOODBOXER 30

FDA compliant

STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

Aisi 316 electro-polished





The dimensions shown are in mm

Intake/delivery connections			G 1/2" f (*)
Air connection			G 1/4" f
Max. self-priming capacity**			6 m
Max. flow rate*			30 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			2 mm
Construction materials and net weight	Aisi 316	3,8 Kg	95°C Max Temp.

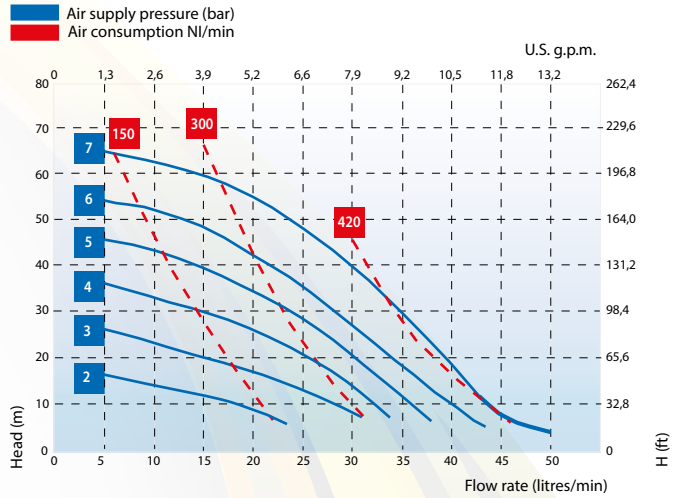
(*) available with clamp, DIN or NPT connections on request

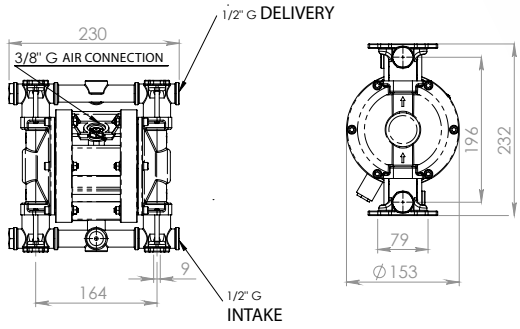
FOODBOXER 50

FDA compliant

STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

Aisi 316 electro-polished





The dimensions shown are in mm

Intake/delivery connections			G 1/2" f (*)
Air connection			G 3/8" f
Max. self-priming capacity**			5 m
Max. flow rate*			50 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			4 mm
Construction materials and net weight	Aisi 316	6,5 Kg	95°C Max Temp.

(*) available with clamp, DIN or NPT connections on request

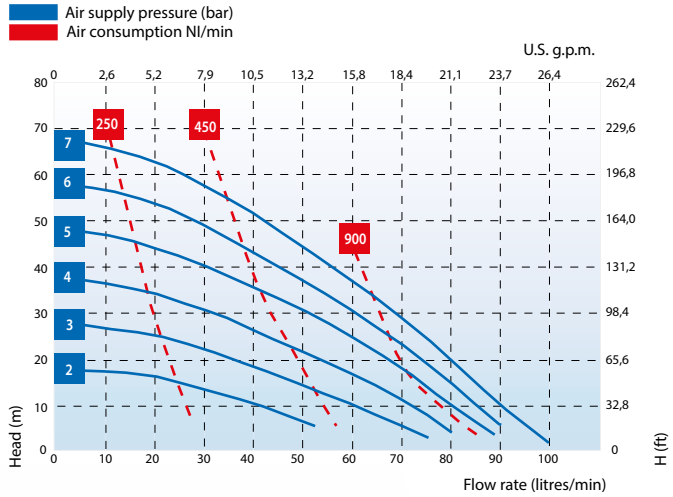
*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material. ** The value depends on the configuration of the pump.

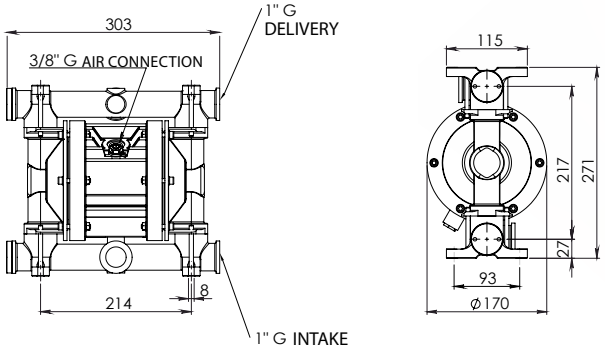
FOODBOXER 80

FDA compliant

STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

Aisi 316 electro-polished





The dimensions shown are in mm

Intake/delivery connections			G 1"f (*)
Air connection			G 3/8"f
Max. self-priming capacity**			6 m
Max. flow rate*			100 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			4 mm
Construction materials and net weight	Aisi 316	10,5 Kg	95°C Max Temp.

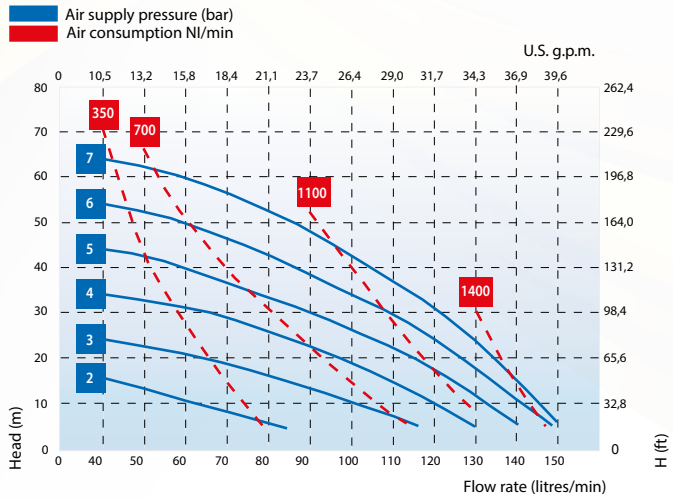
(*) available with clamp, DIN or NPT connections on request

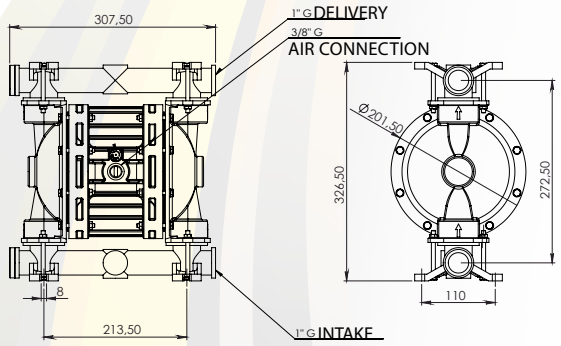
FOODBOXER 100

FDA compliant

STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

Aisi 316 electro-polished





The dimensions shown are in mm

Intake/delivery connections			G 1"f (*)
Air connection			G 3/8"f
Max. self-priming capacity**			5 m
Max. flow rate*			150 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			4 mm
Construction materials and net weight	Aisi 316	11 Kg	95°C Max Temp.

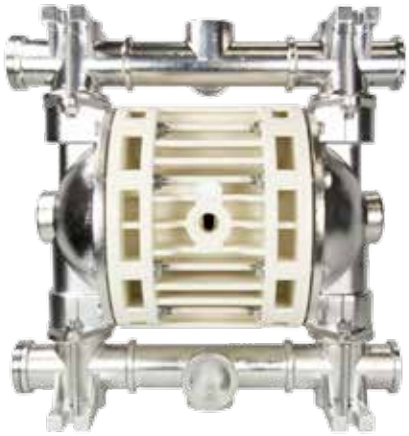
(*) available with clamp, DIN or NPT connections on request

*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material. ** The value depends on the configuration of the pump.

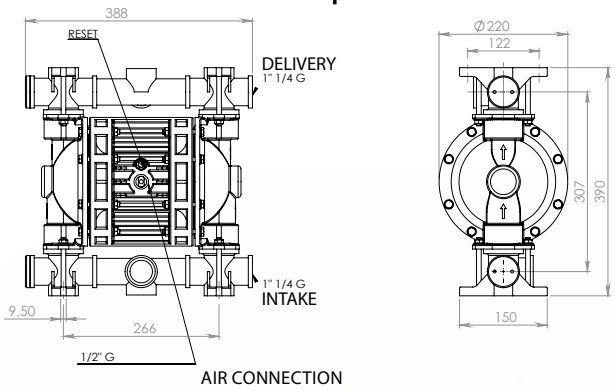
FOODBOXER 150

FDA compliant

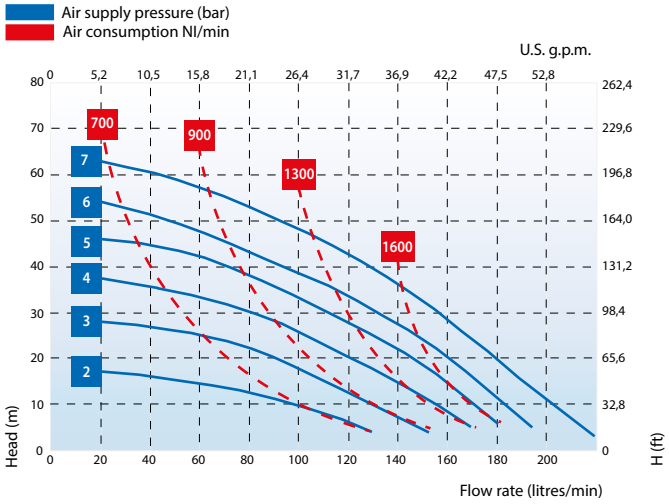
STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)



Aisi 316 electro-polished



The dimensions shown are in mm



Intake/delivery connections			G 1" 1/4 f (*)
Air connection			G 1/2" f
Max. self-priming capacity**			6 m
Max. flow rate*			220 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			5 mm
Construction materials and net weight	Aisi 316	21 Kg	95°C Max Temp.

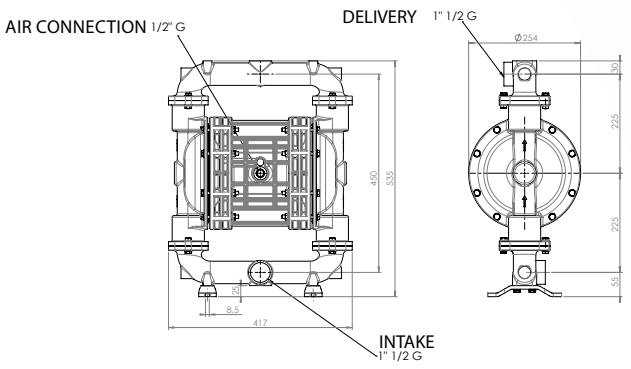
(*) available with clamp, DIN or NPT connections on request

FOODBOXER 251

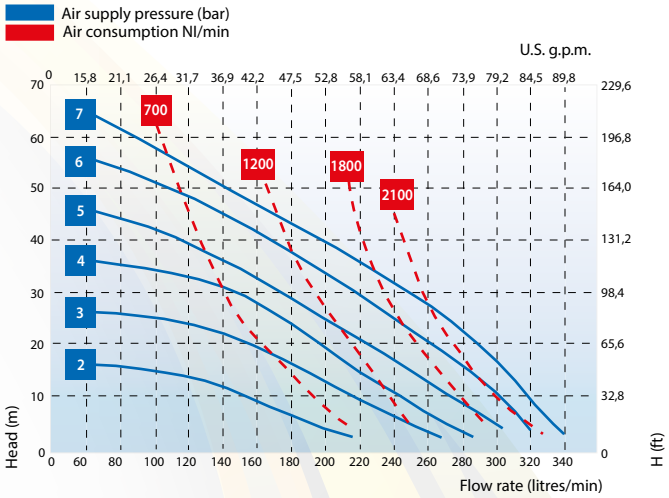
FDA compliant

STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

Aisi 316 electro-polished



The dimensions shown are in mm



Intake/delivery connections			G 1" 1/2 f (*)
Air connection			G 1/2" f
Max. self-priming capacity**			6 m
Max. flow rate*			340 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			6 mm
Construction materials and net weight	Aisi 316	32 Kg	95°C Max Temp.

(*) available with clamp, DIN or NPT connections on request

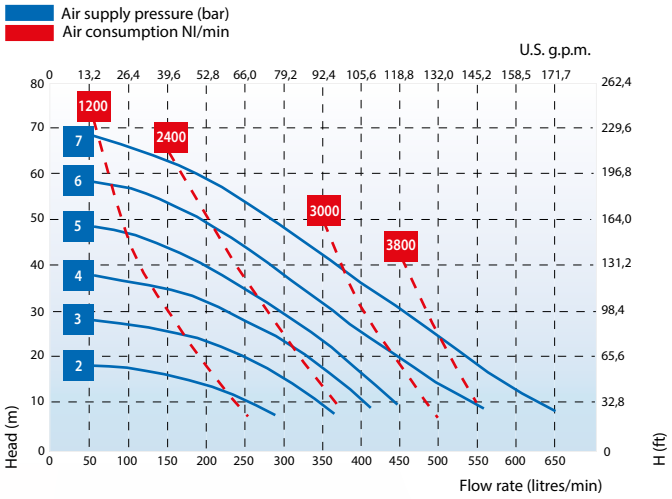
*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and var according to the construction material. ** The value depends on the configuration of the pump.

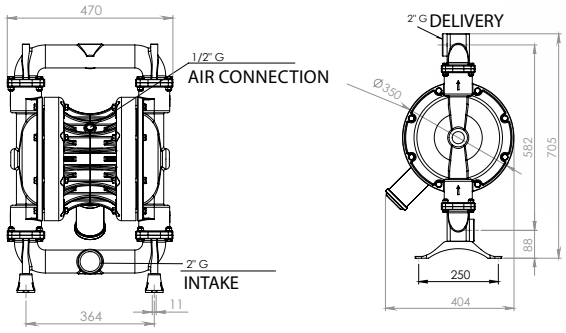
FOODBOXER 502

FDA compliant

STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

Aisi 316 electro-polished





The dimensions shown are in mm

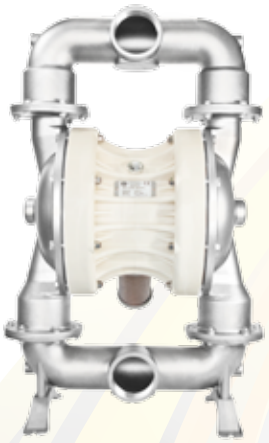
Intake/delivery connections			G 2" f (*)
Air connection			G 1/2" f
Max. self-priming capacity**			6 m
Max. flow rate*			650 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			8 mm
Construction materials and net weight	Aisi 316	54 Kg	95°C Max Temp.

(*) available with clamp, DIN or NPT connections on request

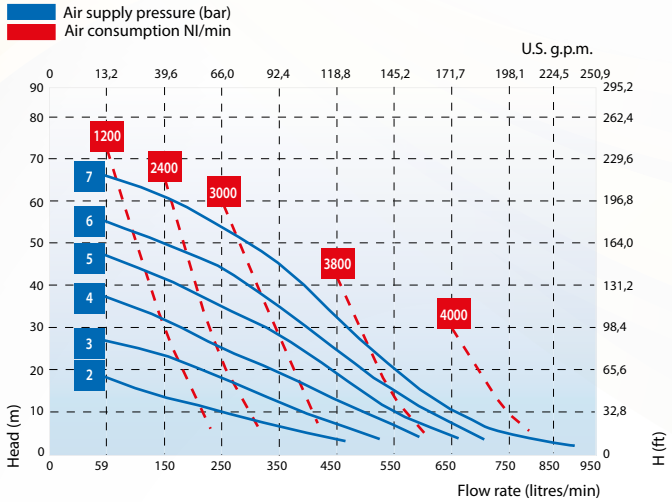
FOODBOXER 503

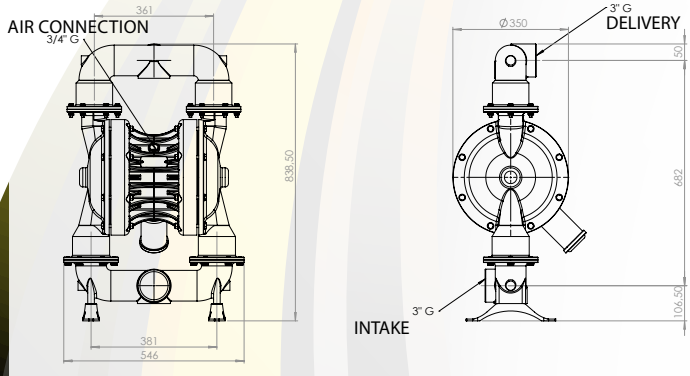
FDA compliant

STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)



Aisi 316 electro-polished





The dimensions shown are in mm

Intake/delivery connections			G 3" f (*)
Air connection			G 3/4" f
Max. self-priming capacity**			5 m
Max. flow rate*			900 l/min
Max. head*			70 m
Max. air supply pressure			7 bar
Max. diameter of passing solids			10 mm
Construction materials and net weight	Aisi 316	71 Kg	95°C Max Temp.

(*) available with clamp, DIN or NPT connections on request

*The curves and performance values refer to pumps with submerged suction and a free delivery outlet with water at 20°C, and vary according to the construction material. ** The value depends on the configuration of the pump.

SANIBOXER

DIAPHRAGM PUMPS - 3A

1544

FDA compliant

II 2/2GD c IIB T135°C (zone1)
II 3/3GD c IIB T135°C (zone2)

3A certified, made with mechanically polished Aisi316, the SANIBOXER pump is designed for the Food-Processing, Cosmetic and Pharmaceutical industry.

APPLICATIONS

The SANIBOXER pneumatic diaphragm pumps have been designed and built to pump liquid foodstuffs using materials that are compatible with the chemical substances used to clean and sanitize the pump.

The pump may be used at operating temperatures (temperature of the fluid + environmental temperature) compatible with the pump materials and in any case never exceeding 95°C.

EASY-CLEAN VALVE
Patent system

Aisi 316
mechanically polished
RA < 0,8µm

WORKING PRINCIPLE

The SANIBOXER diaphragm pumps consist of a centrally lodged coaxial pneumatic motor with diaphragms fixed to its shaft.

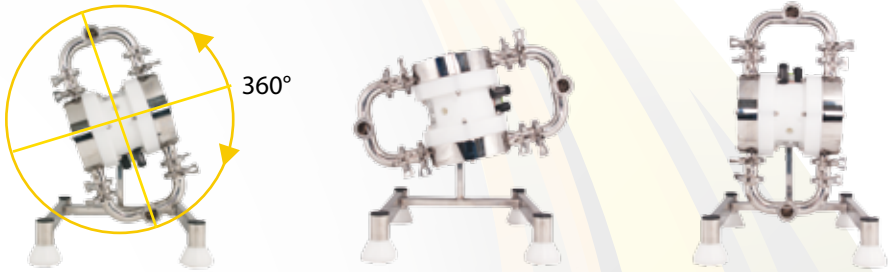
The ball valves and the seats of the suction and delivery lines are located on the ends of the two pump bodies.

The compressed air injected by the coaxial exchanger behind one of the two diaphragms determines the compression and pushes the product in the delivery line.

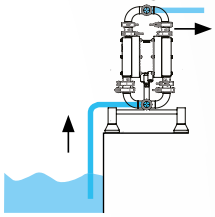
At the same time the diaphragm, integral with the exchanger's shaft, creates a depression while sucking the fluid.

Once the run is completed, the pneumatic coaxial exchanger deviates the compressed air behind the opposite diaphragm and the cycle reverses automatically.

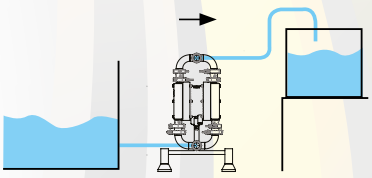
FAST EMPTYING SYSTEM



Self-priming



Positive suction head



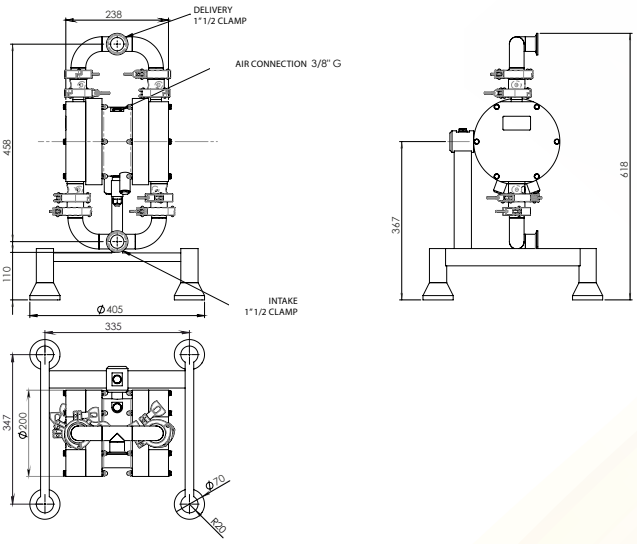
SANIBOXER 100

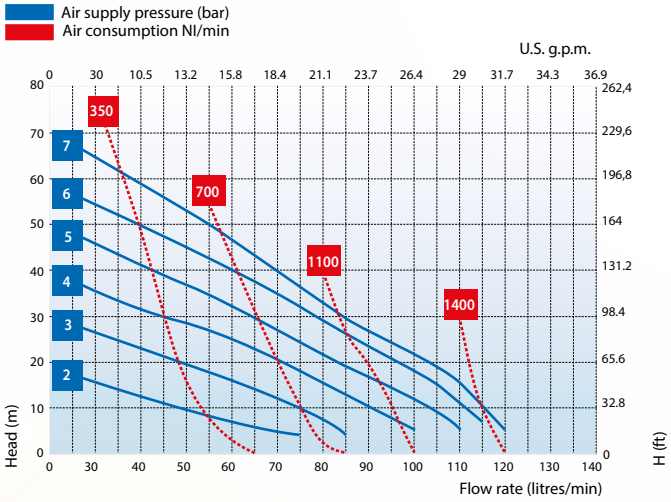
1544

FDA compliant

Mechanically polished Aisi316

Suction/delivery connections	1"1/2 clamp
Air connection	3/8"
Air pressure (max.)	7 bar
Max. operating temperature (fluid + amb.)	95°C
Dry suction capacity (PTFE diaphragm)	4m
Max flow rate (water at 18°C with immersed intake manifold)	120 l/m
Net weight (empty)	26 KG
Max. diameter of passing solids	4 mm

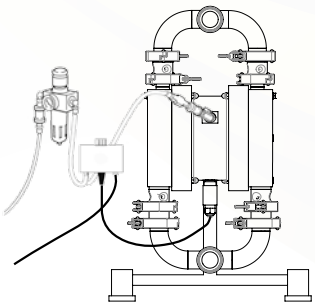




ACCESSORIES - DIAPHRAGM LEAKER SENSOR

This system designed to be used by SANIBOXER diaphragm pumps, is provided with a self-diagnosis function for the contacts and the right operation of the circuit. In the event of a malfunction, the red pilot lamp always lits up and, depending on the irregularity the audible alarm will activate too.

The control unit operates exclusively during the pumping of conductive fluids; it detects the diaphragm breakage through the contacts placed behind the diaphragms, inside the compression chamber.
When the liquid stands between the two sensors, it causes the closing of the electric circuit placed
inside the control unit and consequently the switching off of the output relay, deactivating then the solenoid valve which controls the pump, stopping its operation and enabling both a visual and acoustic alarm.



COMPOSITION CODES

es. SB100A-DTTAT-

Saniboxer 100 in Aisi316, diaphgragm EPDM, diaphgragm PTFE, balls Aisi 316 + ball seats Aisi316. O-Ring PTFE

SB100	A -	D	T	T	A	T	-
Pump model	**Pump body**	**Single diaphragm**		**Balls**	**Ball seats**	**O-Ring**	
		Air side	**Fluid side**				
SB 100 = SANIBOXER 100	**A** - AISI 316 electropolished	**D** - EPDM	**T** - PTFE	**T** - PTFE **A** - Aisi 316	**A** - AISI 316		

EQUAFLUX

Main features:

Available in PP, PVDF, PPS-V, AISI 316, Alu

Automatic dampening control;

Suitable for demanding applications;

Use in potentially-explosive atmospheres (ATEX certifications);

Use in environments subject to high humidity;

Actuated using non lubricated air ((2 ÷ 7 bar);

Range of construction materials ensures correct fluid compatibility;

User-friendly parts replacement and maintenance;

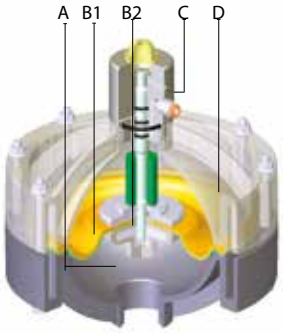
Excellent performance and value for money.

EQUAFLUX automatic diaphragm pulsation dampeners feature solid build and high performance. They are fitted to the discharge line of diaphragm pumps in order to smooth pulsating flows and can be used with liquids having high apparent viscosity even if containing suspended solids of considerable size.

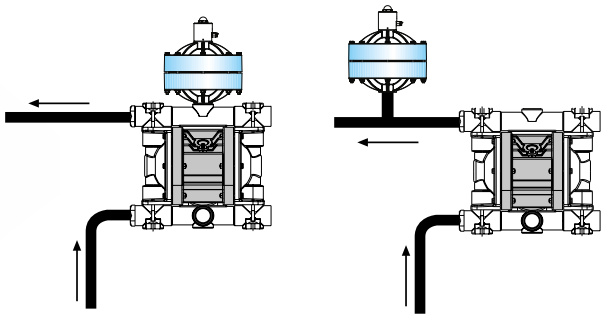
EQUAFLUX dampeners **automatically adapt** to system conditions **without the need for manual adjustment** or calibration.

The ability to minimise pulsations, vibrations and water hammer means that this component provides excellent protection and smooth system flow.

The huge choice of construction materials allows selection of optimum chemical compatibility with the fluid and/or environment without neglecting the temperature range. **Dampeners are also available for use in potentially explosive atmospheres (ATEX certification).**



A = expansion opening
B1 = air-side diaphragm
B2 = fluid-side diaphragm
C = automatic pneumatic valve
D = compressed-air chamber

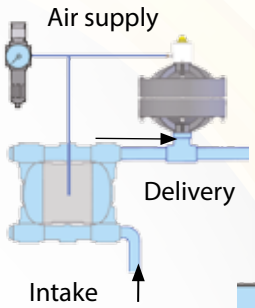


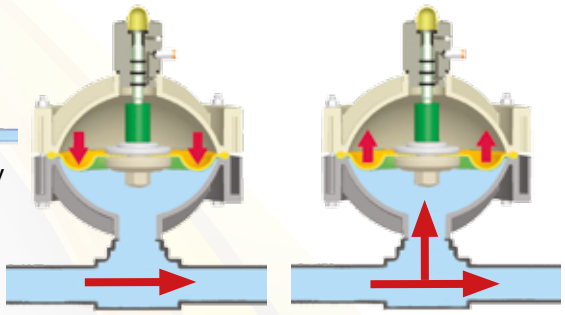
HOW IT WORKS

The compressed air entering the back-pressure chamber behind the diaphragm creates a pneumatic cushion that adjusts automatically to compensate the shock produced by the pressure pulse of the fluid generated by the pump.

STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

Air supply:
2 ÷ 7 bar





COMPOSITION CODES

ex. **EQ100P-HTC**
Equaflux 100 in PP, air side diaphgram Hytrel, product side diaphragm PTFE, conduct

EQ100	P -	H	T	C
Dampener model	**Dampener body**	**Air side diaphragm**	**Fluid side diaphragm**	**Coduct version**
EQ 51 - Equaflux 51 **EQ 100** - Equaflux 100 **EQ 200** - Equaflux 200 **EQ 302** - Equaflux 302 **EQ 303** - Equaflux 303	**P** - Polypropylene **FC** - PVDF+CF **R** - PPS-V **A** - Aisi 316 (except EQ 303) **AL** - Alluminio **PC** - PP + CF	**H** - Hytrel **M** - Santoprene **D** - EPDM **N** - NBR	**T** - PTFE	(zone 1) II 2/2GD c IIB T135°C **C** - if requested
FQ 51 - Foodequaflux 51 **FQ 100** - Foodequaflux 100 **FQ 200** - Foodequaflux 200 **FQ 302** - Foodequaflux 302	**A** - Aisi 316	**H** - Hytrel	**T** - PTFE	(zona 1) II 2/2GD c IIB T135°C **C** - on request

EQUAFLUX

STANDARD: II 3/3 GD c IIB T135°C (zone 2)
CONDUCT: II 2/2 GD c IIB T135°C (zone 1)

DEBEM

PULSATION DAMPENERS

Product connection	Air connection	Max. air supply pressure	Applicability	Weight	Operating temperature	Dimension mm
G 3/4"	ø 6 mm	7 bar	MIDGETBOX PP, CUBIC 15 PP, MICROBOXER PP	0,5 Kg	min +3°C max +65°C	121x117
G 3/4"	ø 6 mm	7 bar	CUBIC 15 ECTFE, MICROBOXER PVDF	0,5 Kg	min +3°C max +95°C	121x117
G 3/4"	ø 6 mm	7 bar	MICROBOXER ALUMINIUM	0,6 Kg	min +3°C max +95°C	121x117
G 1/2"	ø 6 mm	7 bar	MICROBOXER Aisi	-	min +3°C max +95°C	133x117
G 1"	ø 6 mm	7 bar	BOXER 50 PP BOXER 81 PP	1,5 Kg	min +3°C max +65°C	177x170
G 1"	ø 6 mm	7 bar	BOXER 50 PVDF, BOXER 81 PVDF	1,7 Kg	min +3°C max +95°C	177x170
G 1"	ø 6 mm	7 bar	BOXER 50 ALUMINIUM BOXER 81 ALUMINIUM	1,7 Kg	min +3°C max +95°C	177x170

EQUAFLUX 51

PP

PVDF

PPS-V

Aisi 316

EQUAFLUX 100

PP

PVDF

PPS-V

PULSATION DAMPENERS

EQUAFLUX 200

EQUAFLUX 302

	Product connection	Air connection	Max. air supply pressure	Applicability	Weight	Operating temperature	Dimension mm
AISI 316 	G 1″	ø 6 mm	7 bar	MINIBOXER Aisi 316 BOXER 80 Aisi 316	-	min +3°C max +95°C	183,2x151
PP 	G 1″ 1/2	ø 6 mm	7 bar	BOXER 100 PP, BOXER 150 PP, BOXER 251 PP	3,8 Kg	min +3°C max +65°C	283,2x254
PVDF 	G 1″ 1/2	ø 6 mm	7 bar	BOXER 100 PVDF BOXER 150 PVDF, BOXER 251 PVDF	4,5 Kg	min +3°C max +95°C	283,2x254
PPS-V 	G 1″ 1/2	ø 6 mm	7 bar	BOXER 150 ALUMINIUM, BOXER 251 ALUMINIUM, BOXER 100 ALUMINIUM	4,5 Kg	min +3°C max +95°C	283,2x254
Aisi 316 	G 1″ 1/2	ø 6 mm	7 bar	BOXER 150 Aisi, BOXER 251 Aisi, BOXER 100 Aisi	-	min +3°C max +95°C	264,7x254
PP/PVDF 	G 2″	Ø 8 mm	7 bar	BOXER 522 in PP	23 Kg	min +3°C max +65°C	398x516
	G 2″	Ø 8 mm	7 bar	BOXER 522 in PVDF	28,5 Kg	min +3°C max +95°C	398x516
Aisi 316/ALU 	G 2″	Ø 8 mm	7 bar	BOXER 502 ALUMINIUM	26 Kg	min +3°C max +95°C	356x352
	G 2″	Ø 8 mm	7 bar	BOXER 502 Aisi 316	32 Kg	min +3°C max +95°C	356x352

FOODEQUAFLUX

STANDARD: II 3/3 GD c IIB T135°C (zona 2)
CONDUCT: II 2/2 GD c IIB T135°C (zona 1)

DEBEM

PULSATION DAMPENERS

Product connection	Air connection	Max. air supply pressure	Applicability	Weight	Operating temperature	Dimension mm
G 3″	Ø 8 mm	7 bar	BOXER 503 PP	23 Kg	min +3°C max +65°C	398x516
G 3″	Ø 8 mm	7 bar	BOXER 503 PVDF	28,5 Kg	min +3°C max +95°C	398x516
G 3″	Ø 8 mm	7 bar	BOXER 503 ALLUMINIO	29 Kg	min +3°C max +95°C	356x352
G 1/2″	ø 6 mm	7 bar	FOODBOXER 30	-	min +3°C max +95°C	133x117
G 1″	ø 6 mm	7 bar	FOODBOXER 50 and 80	-	min +3°C max +95°C	183,2x151
G 1″ 1/2	ø 6 mm	7 bar	FOODBOXER 100, 150, 251	-	min +3°C max +95°C	264,7x254
G 2″	Ø 8 mm	7 bar	FOODBOXER 502	32 Kg	min +3°C max +95°C	356x352

EQUAFLUX 303

PP

PVDF

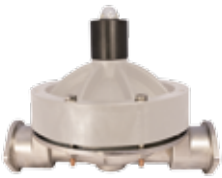
ALU

FOODEQUAFLUX Aisi 316

FQ 51

FQ 100

FQ 200



FQ 302

HORIZONTAL CENTRIFUGAL PUMPS

Main features:

Available in polypropylene, PVDF;

Positive suction head operation;

Weldless;

Mechanical bellows or lip seal;

Usable even with extremely dirty liquids;

Flow rates: from 6 to 75 m³/h;

Head: up to 38 mt;

Quick and easy maintenance;

Inexpensive spares.

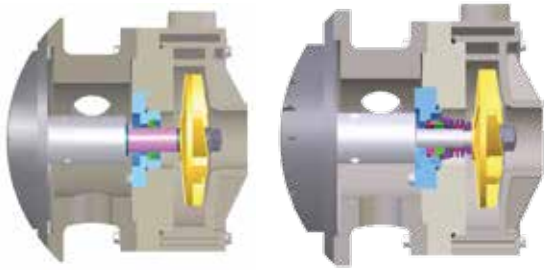
Viscosity: up to 500 cps

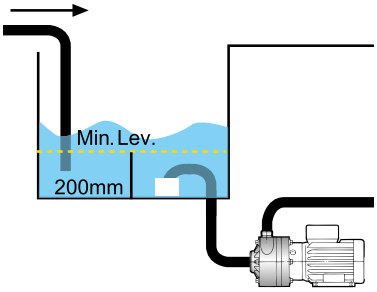
European voltage motors:
IP55 - F Class - 2-pole - 50 Hz - three-phase
single phase from 0,55 kw to 2,2 kw - 50/60 Hz

Max. operating temperature:
PP min +3°C/max 65°C
PVDF min +3°C/max 95°C

Debem manufactured resin-encased horizontal centrifugal pumps are pumps operated by a direct-drive motor **(max 3000 rpm)** for fast fluid transfer and/or drainage with **flow rates ranging from 6 to 75 m³/h**. Their special open-impeller design allows pumping even with very dirty liquids having **apparent viscosity up to 500 cps (at 20°C)** and small suspended solids. There are two versions available with different internal mechanical seal depending on use, **TL (lip seal) and TS (bellows seal).**

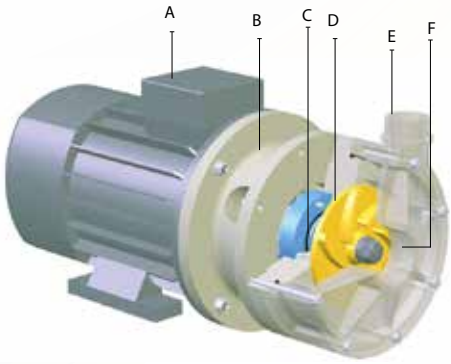
TL = lip seal **TS = bellows seal**





HOW IT WORKS

The impeller is integral with the shaft and direct-drive electric motor and is rotated at a preset speed with the centrifugal effect producing suction on the intake side and discharge on the delivery side.



A = electric motor
B = inspection lantern
C = mechanical seal
D = impeller
E = delivery duct
F = intake duct

pump	motor power
MB 80	0.37 Kw - 0.5 HP
MB 100	0.55 Kw - 0.75 HP
MB 110	1.1 Kw - 1.5 HP
MB 120	1.5 Kw - 2 HP
MB 130	2.2 Kw - 3 HP

pump	motor power
MB 140	3 Kw - 4 HP
MB 150	4 Kw - 5.5 HP
MB 155	5.5 Kw - 7.5 HP
MB 160	7.5 Kw - 10 HP
MB 180	11 Kw - 15 HP

COMPOSITION CODES

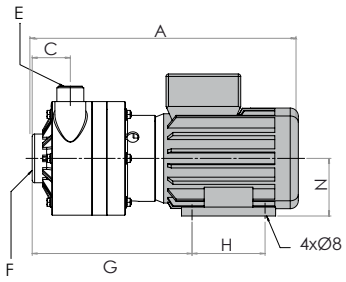
ex. **MB080P,TLVN**
MB 80 in PP +Viton lip seal + Three-phase motor

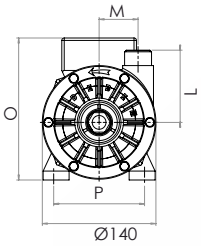
MB080	P -	TLV	N
Pump model	**Pump material**	**Type of seal**	**Motor**
MB 80 - MB 80 **MB 100** - MB 100 **MB 110** - MB 110 **MB 120** - MB 120 **MB 130** - MB 130 **MB 140** - MB 140 **MB 150** - MB 150 **MB 155** - MB 155 **MB 160** - MB 160 **MB 180** - MB 180	**P** - polypropylene **F** - PVDF	**TLV** - Viton lip seal **TLD** - EPDM lip seal **TSV** - Viton bellow seal **TSD** - EPDM bellow seal	**N*** - Three-phase motor **M** - Single-phase motor **A** - ATEX motor

* Standard motor is the three-phase induction type with European voltage (2-pole) 50Hz

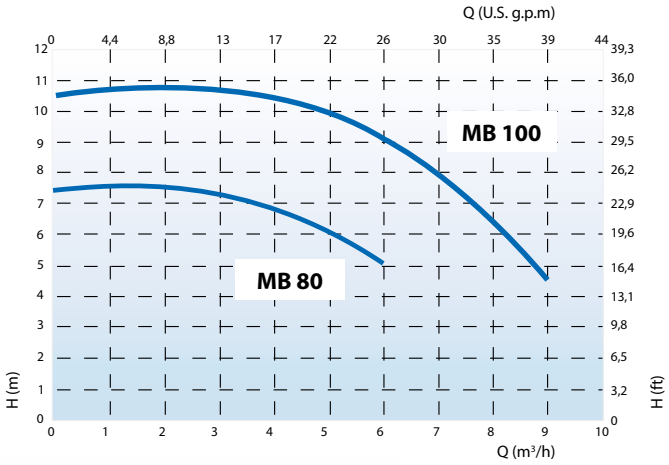
MB 80/100

PVDF PP





The dimensions shown are in mm

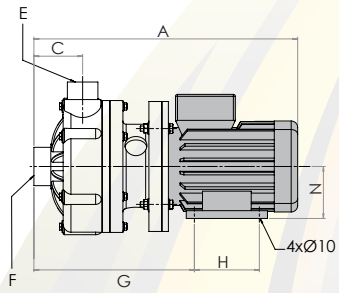


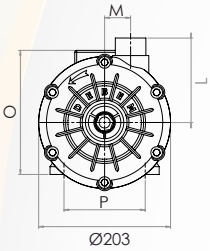
The curves and performance values refer to pumps spare delivery outlet and water at 20°C.
2 pole motor 50 Hz (2900rpm)

model	seal	power	ø passing solids	A	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
MB80	TL-TS	0.37 Kw 0.5 HP	5	328	47	G 1" M o DN25	G 1"1/2 f o DN 40	197	90	89	48	71	175	112	8,5	9,5
MB100	TL-TS	0.55 Kw 0.75 HP	7	328	47	G 1" M o DN25	G 1"1/2 f o DN 40	197	90	89	48	71	175	112	8,5	9,5

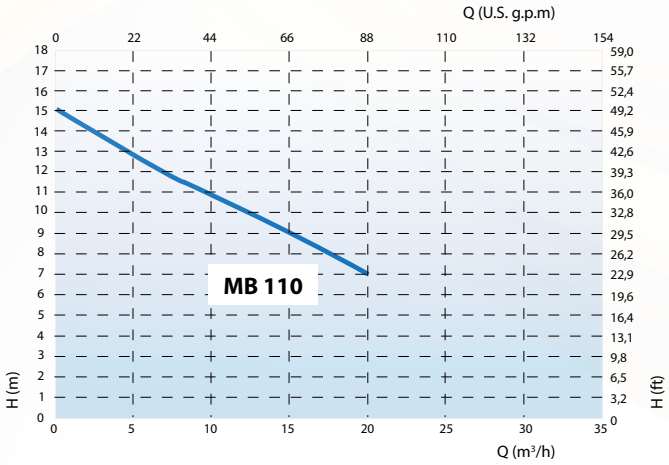
MB 110

PVDF PP





The dimensions shown are in mm

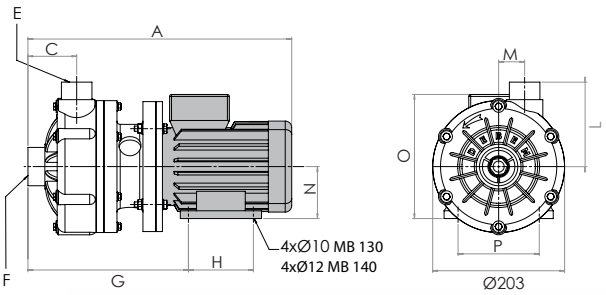


The curves and performance values refer to pumps spare delivery outlet and water at 20°C.
2 pole motor 50 Hz (2900rpm)

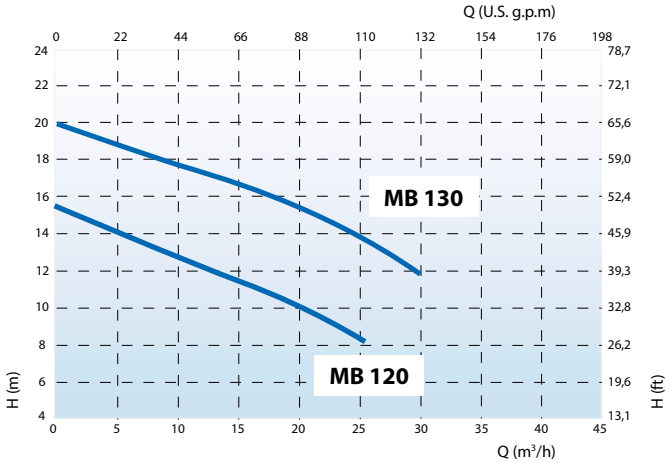
model	seal	power	ø passing solids	A	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
MB110	TL-TS	1.1 Kw 1.5 HP	2	406	75	G 1" 1/2 M o DN40	G 2" M o DN50	247	100	130	40	80	191	125	16	17

MB 120/130

PVDF PP



The dimensions shown are in mm

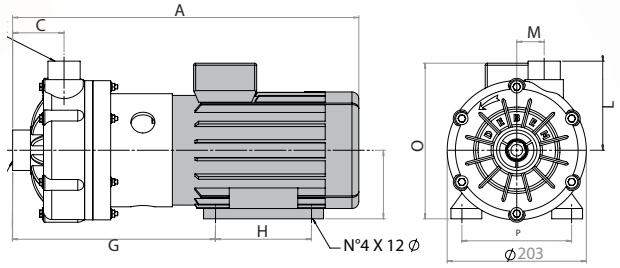


The curves and performance values refer to pumps spare delivery outlet and water at 20°C.
2 pole motor 50 Hz (2900rpm)

model	seal	power	ø passing solids	A	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
MB120	TL-TS	1.5 Kw 2 HP	6	426	75	G 1" 1/2 M o DN40	G 2" M o DN50	257	100	130	40	90	210	140	16	17
MB130	TL-TS	2.2. Kw 3 HP	6	448	75	G 1" 1/2 M o DN40	G 2" M o DN50	257	125	130	40	90	210	140	22,5	23,5

MB 140

PVDF PP



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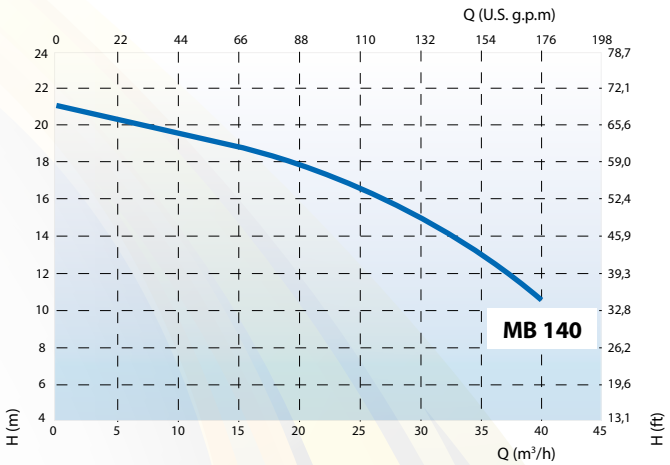
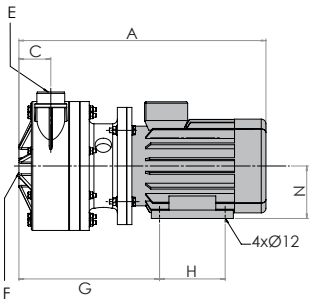


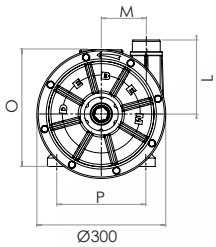
The curves and performance values refer to pumps spare delivery outlet and water at 20°C.
2 pole motor 50 Hz (2900rpm)

model	seal	power	ø passing solids	A	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
MB140	TL-TS	3 Kw 4 HP	12	505	75	G 1" 1/2 M o DN40	G 2" M o DN50	296	140	130	40	100	227	160	29	30

MB 150/155

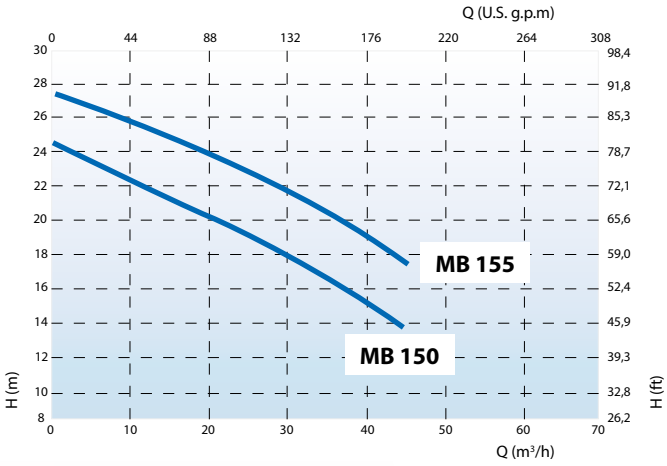
PVDF PP





MB 150 Ø 275 - MB 155 Ø 300

The dimensions shown are in mm

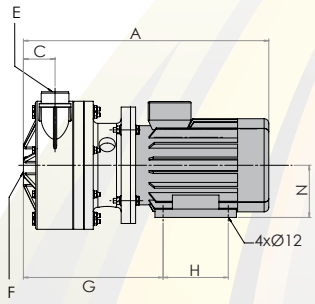


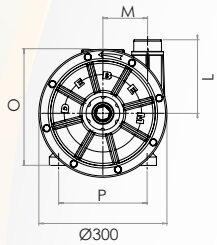
The curves and performance values refer to pumps spare delivery outlet and water at 20°C.
2 pole motor 50 Hz (2900rpm)

model	seal	power	ø passing solids	A	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
MB150	TL-TS	4 Kw 5.5 HP	2	527	68	G 2" M o DN50	G 2" 1/2 F o DN65	300	140	158	96	112	249	190	44	47
MB155	TL-TS	5.5 Kw 7.5 HP	3	619	68	G 2" M o DN50	G 2" 1/2 F o DN65	329	140	158	96	132	312	216	60	63

MB 160/180

PVDF PP





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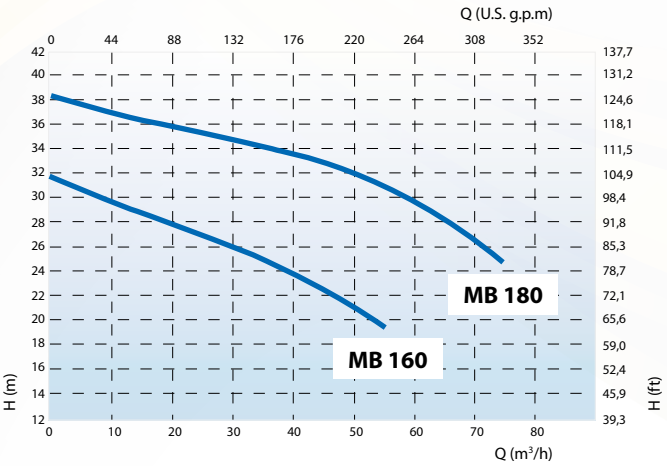


The curves and performance values refer to pumps spare delivery outlet and water at 20°C.
2 pole motor 50 Hz (2900rpm)

model	seal	power	ø passing solids	A	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
MB160	TL-TS	7.5 Kw 10 HP	9	645	68	G 2" M o DN50	G 2" 1/2 F o DN65	335	140	158	96	132	310	216	70	73
MB180	TL-TS	11 Kw 15 HP	9	695	68	G 2" M o DN50	G 2" 1/2 F o DN65	335	178	158	96	132	310	216	96	99

MAGNETIC DRIVE CENTRIFUGAL PUMPS

Main features:

Available in polypropylene, PVDF;

Positive suction head operation;

Weldless;

High flow rates: from 5 to 35 m³/h ;

Quick and easy maintenance;

Inexpensive spares;

There is no possibility of fluid leakage;

Head: up to 24 mt;

Viscosity: up to 150 cps;

Motors:

standard IEC - IP 55 - CLASS F - 2 POLE - 2.900rpm

optional: three phase 230/400V 50/60 Hz

single phase 230V 50/60 Hz

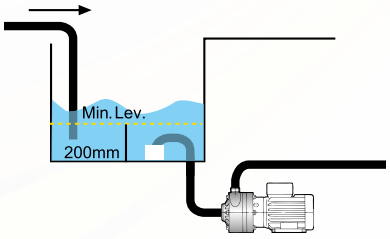
INSTALLATION

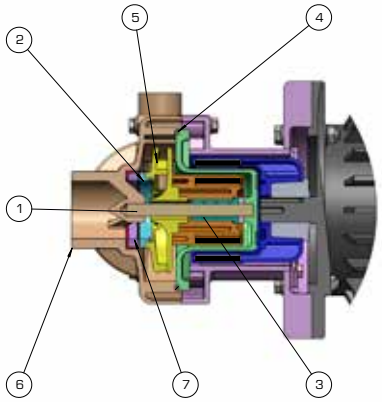
DM magnetic drive centrifugal pumps should only be installed with the shaft positioned horizontally in a positive suction head arrangement.
Suitable devices should be fitted to prevent dry running and the formation of a vortex and possible air suction. Horizontal centrifugal pumps should only operate WHILST FILLED.

A couple of magnets leads the operation of the pump; the outer magnet placed on the drive shaft transmits the motion to the inner magnet integrated with the impeller that is hermetically insulated. The pump impeller is not physically fixed to the drive shaft, seals are therefore eliminated and this consequently avoids leakages of the liquid drawn by the pump which are usually due to its wear and tear. The pump head is manufactured with few components, thus the maintenance of which becomes extremely easy. The materials used as standard are polypropylene (pp) and polyvinylidene fluoride (pvdf).
The pumps can't run dry. Dirty liquids can reduce the pump life.

Working temperatures:
PP min +3°C/max +65°C
PVDF min +3°C/max +95°C

DEBEM pumps are succesfully suitable for many different application fields such as: laboratory technique, medical equipments, photo processors, x rays film processors, laser beam systems, metal finishing machines, graphics, heat exchangers, aquariums, water treatment, filter units, chemical industry, galvanic industry.





	components	material
1	Shaft	Alumina Ceramics 99,7%
2	Thrust bearing washer	PTFE + 30% Graphite
3	Bearing	PTFE + 30% Graphite
4	O-ring	VITON/EPDM
5	Impeller	PP/PVDF+CF
6	Pump Casing	PP/PVDF+CF
7	Head thrust bearing washer	Alumina Ceramics 99,7%

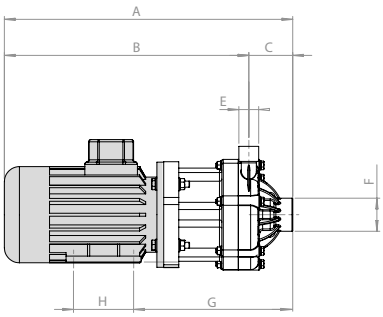
COMPOSITION CODES

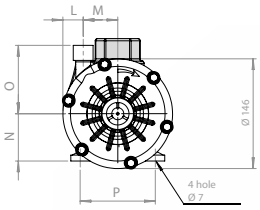
ex. **DM10P-SD1NE071**
DM10 in PP, standard thrust washer, Epdm O-Ring, impeller Ø 98, NPT connection, MEC motor flange, motor casing 071

DM10	P -	S	D	1	N	E	071
Pump model	**Pump body**	**Thrust washer**	**O Rings**	**Impeller**	**Connection**	**Motor Flange**	**Motor Casing**
DM06 **DM10** **DM15** **DM30**	**P** - Polypropylene **FC** - PVDF +Cf	**S** - Standard (ceramic + PTFE Graphite)	**D** - EPDM **V** - Viton	**DM06** 1=Ø 81 2=Ø 70 3=Ø 65 **DM10** 1=Ø 98 2=Ø 85 3=Ø 70 **DM15** 1=Ø 123 2=Ø 108 3=Ø 90 **DM30** 1=Ø 134 2=Ø 122 3=Ø 110	**N** - NPT **B** - BSP	**E** - MEC **U** - NEMA	**DM06** 063 071 **DM10** 071 080 **DM15** 090 **DM30** 090 100 112

DM 06

PP PVDF





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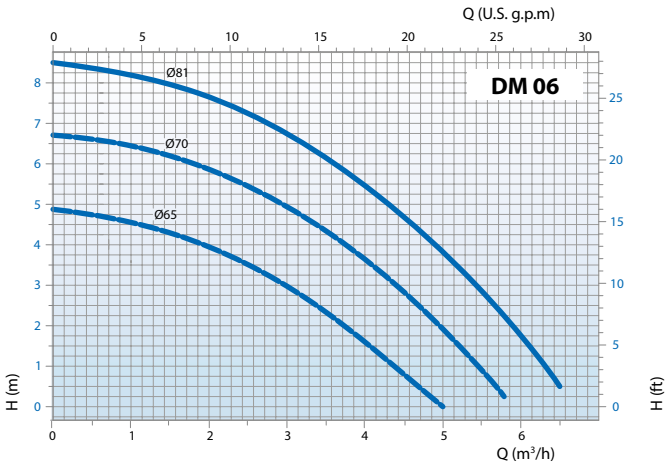


impeller	motor 0,25 Kw (0.35 HP)	motor 0,37 Kw (0.50 HP)
ø 81mm*	up to 1,2	up to 1,8
ø 70 mm	up to 1,5	up to 2
ø 65 mm	up to 1,8	up to 2

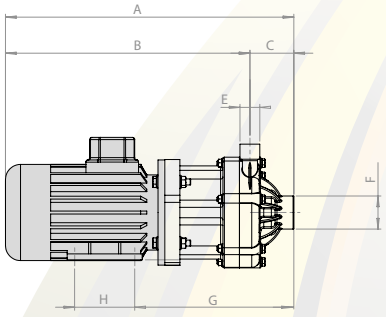
*standard

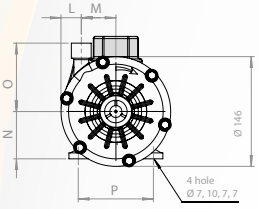
model	motor size	power	A	B	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
DM06	IEC 63	0,25 Kw	383	325	58	3/4" M*	1" F*	211	80	27	46	63	91	100	6,7	7
DM06	IEC 71	0,37 Kw	404	346	58	3/4" M*	1" F*	217	90	27	46	71	91	112	7,5	7,8
DM06	NEMA 56C	0,5 Hp	436	377	58	3/4" M*	1" F*	228	90	27	46	89	91	112	-	-

*gas bsp or NPT

DM 10

PP PVDF





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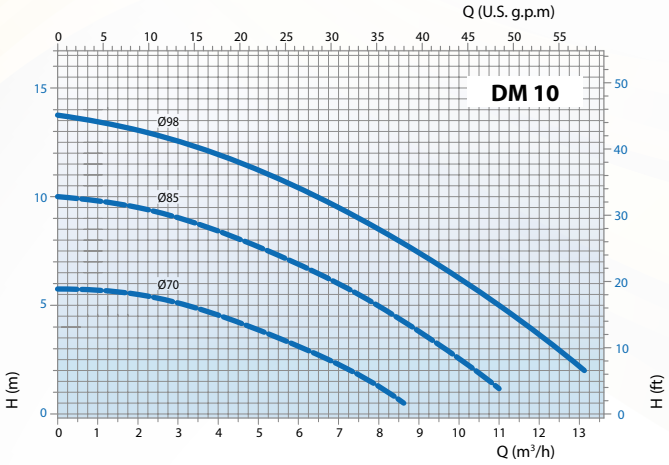


impeller	motor 0,55 Kw (0.75 HP)	motor 0,75 Kw (1 HP)
ø 98 mm*	up to 1,1	up to 1,5
ø 85 mm	up to 1,6	up to 2
ø 70 mm	up to 2	up to 2

*standard

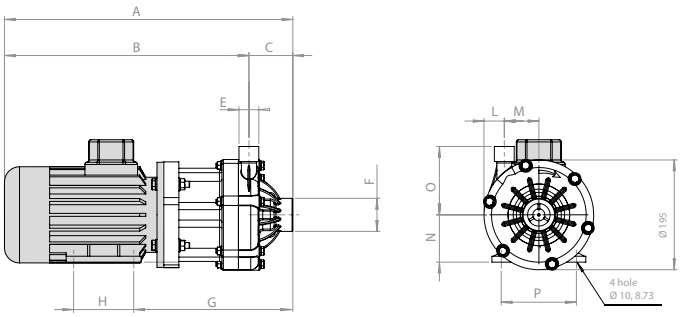
model	motor size	power	A	B	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
DM10	IEC 71	0,55 Kw	417	349	68	1" M*	1"1/2 F*	229	90	25	47	71	91	112	8,6	9
DM10	IEC 80	0,75 Kw	459	391	68	1" M*	1"1/2 F*	346	100	25	47	80	91	125	10,6	11
DM10	NEMA 56C	0,75 Hp	448	380	68	1" M*	1"1/2 F*	240	90	25	47	89	91	112	-	-
DM10	NEMA 143TC	1,00 Hp	482	414	68	1" M*	1"1/2 F*	245	90	25	47	89	91	112	-	-

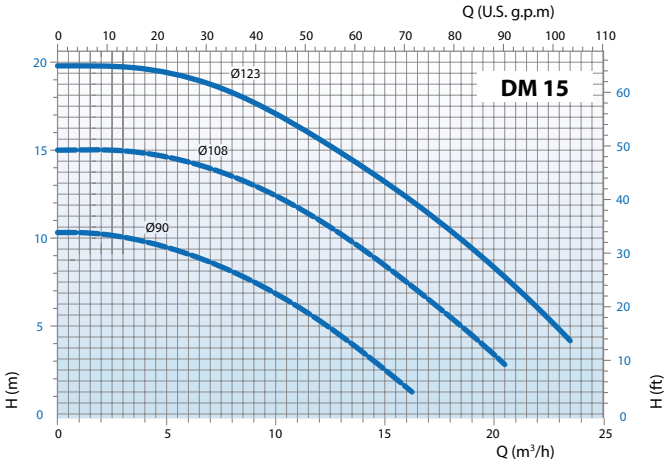
*gas bsp or NPT

The curves and performance values refer to pumps spare delivery outlet and water at 20°C.
2 pole motor 50 Hz (2900rpm)

DM 15

PP PVDF





impeller	motor 1.5 Kw (2 HP)	motor 2.2 Kw (3 HP)
ø 123 mm*	up to 1,1	up to 1,8
ø 108 mm	up to 1,6	up to 2
ø 90 mm	up to 2	up to 2

*standard

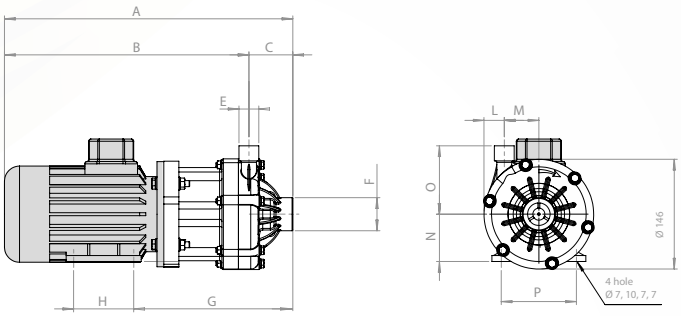
The dimensions shown are in mm

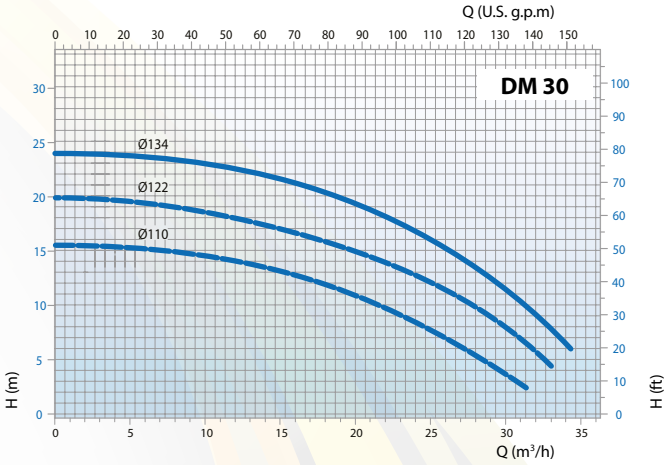
model	motor size	power	A	B	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
DM15	IEC 90	1,5 Kw	489	408	81	1"1/4 M*	1"1/2 F*	298	125	35	62	90	125	140	-	-
DM15	IEC 90	2,2 Kw	489	408	81	1"1/4 M*	1"1/2 F*	298	125	35	62	90	125	140	-	-
DM15	NEMA 145 TC	3 Hp	530	449	81	1"1/4 M*	1"1/2 F*	327	127	34	62	88	125	139	-	-

*gas bsp or NPT

DM 30

PP PVDF





impeller	motor 2,2 Kw (3 HP)	motor 3 Kw (4 HP)	motor 4 Kw (5.5 HP)
ø 134 mm*	up to 1,1	up to 1,5	up to 1,8
ø 122 mm	up to 1,4	up to 2	up to 2
ø 110 mm	up to 1,8	up to 2	up to 2

*standard

The dimensions shown are in mm

model	motor size	power	A	B	C	E	F	G	H	L	M	N	O	P	Kg PP	Kg PVDF
DM30	IEC 90	2,2 Kw	499	408	91	1"1/2 M*	2 F*	308	125	31	66	90	140	140	-	-
DM30	IEC 100	3 Kw	524	433	91	1"1/2 M*	2 F*	315	140	31	66	100	140	160	-	-
DM30	IEC 112	4 Kw	549	458	91	1"1/2 M*	2 F*	322	140	31	66	112	140	190	-	-
DM30	NEMA 145TC	3 Hp	541	450	91	1"1/2 M*	2 F*	337	127	31	66	88	140	139	-	-
DM30	NEMA 184TC	5 Hp	608	517	91	1"1/2 M*	2 F*	328	139	31	66	114	140	190	-	-

The curves and performance values refer to pumps spare delivery outlet and water at 20°C.
2 pole motor 50 Hz (2900rpm)

*gas bsp or NPT

Main features:

Construction materials: PP, PVDF;

Pump immersed in the tank;

Motor removable even with pump installed;

Weldless;

Usable even with extremely dirty liquids;

High flow rates: from 6 to 75 m³/h;

User-friendly bushing replacement;

Quick and easy maintenance;

Also available without motor;

Max. head: 7,2 ÷ 38 m

Viscosity: up to 500 cps

European voltage motors: IP55 - F Class - 2-pole - 230/400 V 50/60 Hz - three-phase
single phase from 0,55 kw to 2,2 Kw - 50/60 Hz

Column length (L): 500/800/1000/1250 mm (other sizes available on request)

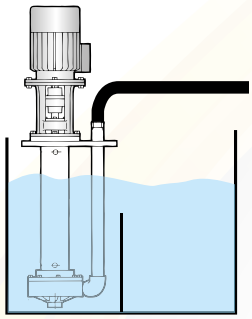
Max. operating temperature:
PP min +3°C/max 65°C
PVDF min +3°C/max 95°C

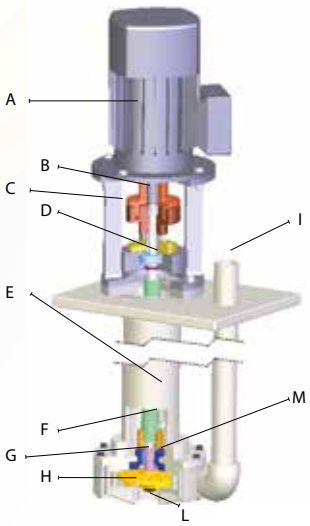
The **IM** series of resin-encased vertical centrifugal pumps features high-performance pumps for fixed installations with pump immersed directly in the tank and operated by a direct-drive electric motor **(max 3000 rpm)** for fast fluid drainage with **flow rates ranging from 6 to 75 m³/h and head up to 38 mt**.
The special design of this type of pump avoids the use of internal mechanical seals (subject to heavy wear) and ensures that any accidental spillages are collected in the tank.
The open impeller allows continuous pumping even with very dirty liquids having **apparent viscosity of up to 500 cps (at 20°C) and small suspended solids.**
The choice of pump construction materials allows selection of optimum chemical compatibility with the fluid and/or environment without neglecting the temperature range.

HOW IT WORKS

The impeller is integral with the shaft and direct-drive electric motor and is rotated at a preset speed with the centrifugal effect producing suction on the intake side and discharge on the delivery side.

pump	motor power
IM 80	0.37 Kw - 0.5 HP
IM 90	0.55 Kw - 0.75 HP
IM 95	0.75 Kw - 1 HP
IM 110	1.1 Kw - 1.5 HP
IM 120	1.5 Kw - 2 HP
IM 130	2.2 Kw - 3 HP
IM 140	3 Kw - 4 HP
IM 150	4 Kw - 5.5 HP
IM 155	5.5 Kw - 7.5 HP
IM 160	7.5 Kw - 10 HP
IM 180	11 Kw - 15 HP





A = electric motor
B = drive coupling
C = lantern
D = radial bearing
E = outer column
F = shaft sleeve
G = ceramic bushing
H = impeller
I = delivery duct
L = intake duct
M = bushing

COMPOSITION CODES

ex. **IM095P-V0800N**
IM95 in PP, O-RING Viton, column length 800 mm, three-phase motor

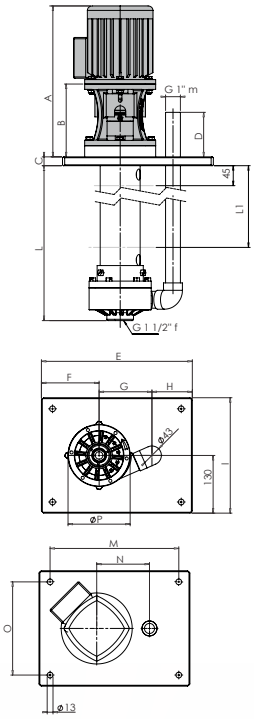
IM095	P -	V	0800	N
Pump model	**Pump material**	**O-Ring**	**Column length**	**Motor**
IM 80 - IM 80 **IM 90** - IM 90 **IM 95** - IM 95 **IM 110** - IM 110 **IM 120** - IM 120 **IM 130** - IM 130 **IM 140** - IM 140 **IM 150** - IM 150 **IM 155** - IM 155 **IM 160** - IM 160 **IM 180** - IM 180	**P** - Polypropylene **F** - PVDF	**D** - EPDM **V** - Viton	**0250** - 250 mm** **0500** - 500 mm **0800** - 800 mm **1000** - 1000 mm **1250** - 1250 mm	**N*** - Three-phase motor **M** - Single-phase motor **A** - ATEX motor

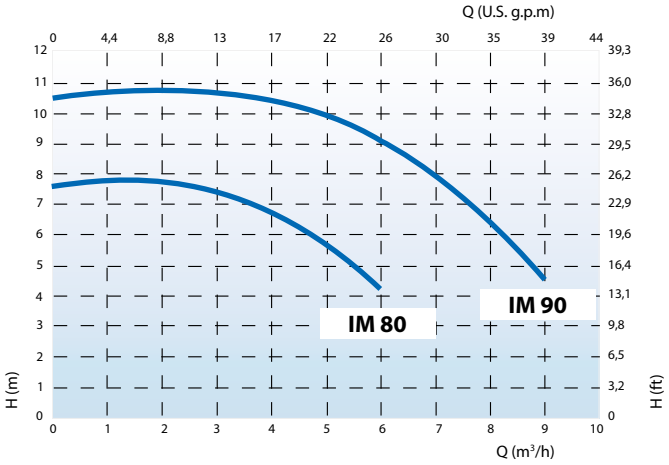
* Standard motor is the three-phase induction type with European voltage (2-pole) 50Hz - ** only available for IM 80/90 pumps

IM 80/90

PP

PVDF





L	Weight	Weight	L1
column	PP	PVDF	max
250	6,5 Kg	7 Kg	100
500	7,5 Kg	8 Kg	350
800	10,5 Kg	11 Kg	650

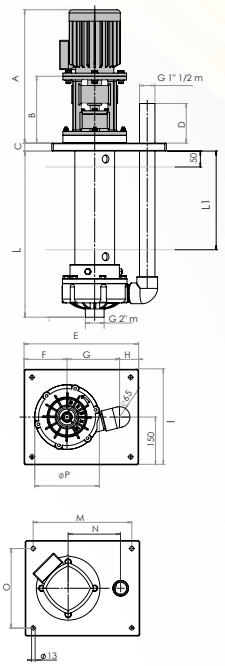
The dimensions shown are in mm - Other sizes available on request

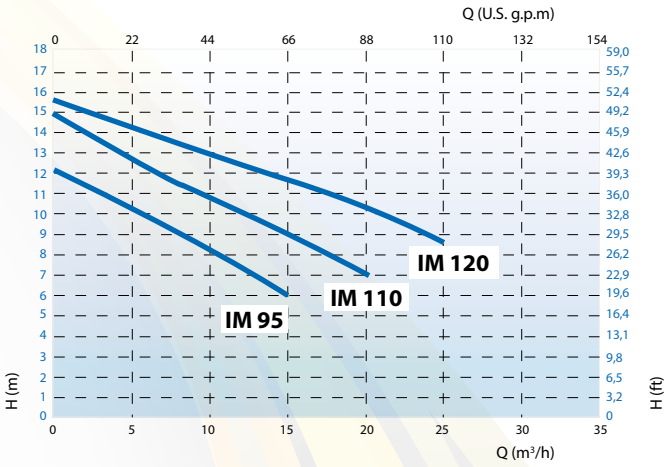
model	power	ø passing solids	A	B	C	D	E	F	G	H	I	M	N	O	P	Kg motor
IM80	0.37 Kw 0.5 HP	7	340	164	20	100	340	130	119	91	260	290	119	210	Ø140	8
IM90	0.55 Kw 0.75 HP	10	340	164	20	100	340	130	119	91	260	290	119	210	Ø140	8

IM 95/110/120

PP

PVDF





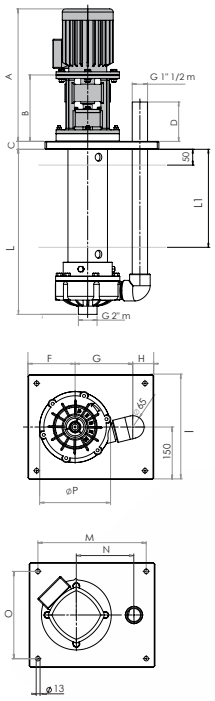
L	Weight	Weight	L1
column	PP	PVDF	max
500	15 Kg	16 Kg	300
800	19 Kg	20 Kg	600
1000	22 Kg	23 Kg	800
1250	24 Kg	25 Kg	1050

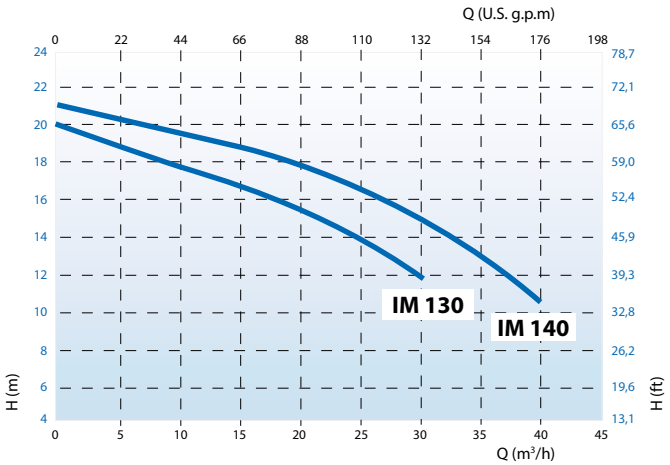
The dimensions shown are in mm - Other sizes available on request

model	power	ø passing solids	A	B	C	D	E	F	G	H	I	M	N	O	P	Kg motor
IM95	0.75 Kw 1 HP	6	419	210	25	125	360	135	165	60	300	310	165	250	Ø203	12
IM110	1.1 Kw 1.5 HP	6	419	210	25	125	360	135	165	60	300	310	165	250	Ø203	13
IM120	1.5 Kw 2 HP	6	446	220	25	125	360	135	165	60	300	310	165	250	Ø203	17

The curves and performance values refer to pumps spare delivery outlet and water at 20°C.
2 pole motor 50 Hz (2900rpm)

IM 130/140



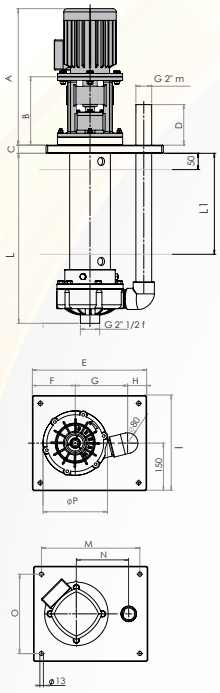


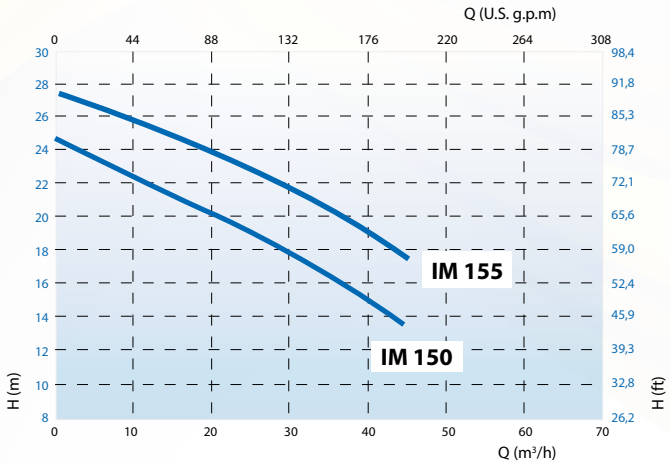
L	Weight	Weight	L1
column	PP	PVDF	max
500	15 Kg	16 Kg	300
800	19 Kg	20 Kg	600
1000	22 Kg	23 Kg	800
1250	24 Kg	25 Kg	1050

The dimensions shown are in mm - Other sizes available on request

model	power	ø passing solids	A	B	C	D	E	F	G	H	I	M	N	O	P	Kg motor
IM130	2.2 Kw 3 HP	6	467	220	25	125	360	135	165	60	300	310	165	250	Ø203	20
IM140	3 Kw 4 HP	12	507	235	25	120	360	135	165	60	300	310	165	250	Ø203	34

IM 150/155





L	Weight	Weight	L1
column	PP	PVDF	max
500	28 Kg	30 Kg	300
800	31 Kg	33 Kg	600
1000	33 Kg	35 Kg	800
1250	36 Kg	38 Kg	1050

The dimensions shown are in mm - Other sizes available on request

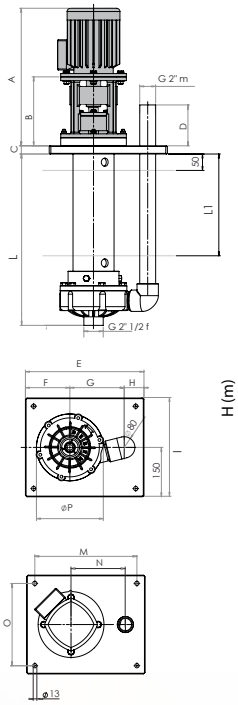
model	power	ø passing solids	A	B	C	D	E	F	G	H	I	M	N	O	P	Kg motor
IM150	4 Kw 5.5 HP	2	532	233	25	132	480	170	215	95	380	430	215	330	Ø275	36
IM155	5.5 Kw 7.5 HP	2	682	303	25	130	480	170	215	95	380	430	215	330	Ø275	53

The curves and performance values refer to pumps spare delivery outlet and water at 20°C.
2 pole motor 50 Hz (2900rpm)

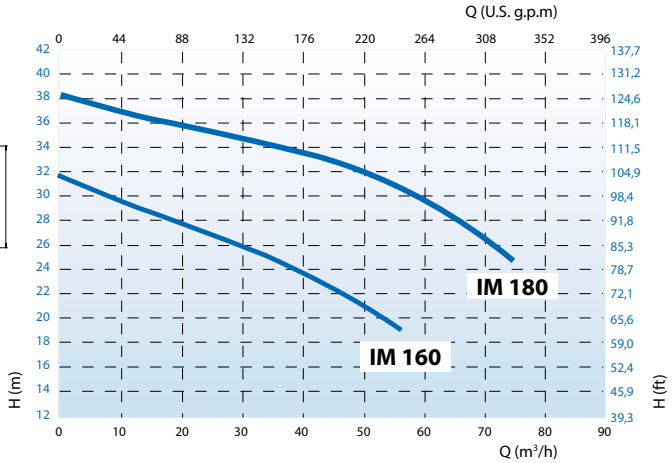
IM 160/180

VERTICAL CENTRIFUGAL PUMPS

PP PVDF



The dimensions shown are in mm



L	Weight	Weight	L1
column	PP	PVDF	max
500	31 Kg	33 Kg	300
800	34 Kg	36 Kg	600
1000	36 Kg	38 Kg	800
1250	39 Kg	41 Kg	1050

The dimensions shown are in mm - Other sizes available on request

model	power	ø passing solids	A	B	C	D	E	F	G	H	I	M	N	O	P	Kg motor
IM160	7.5 Kw 10 HP	9	702	303	25	130	480	170	215	95	380	430	215	330	Ø275	61
IM180	11 Kw 15 HP	11	752	303	25	130	480	170	215	95	380	430	215	330	Ø275	71

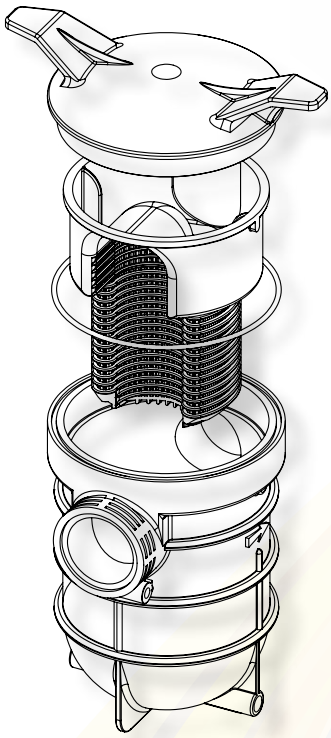
The curves and performance values refer to pumps spare delivery outlet and water at 20°C.
2 pole motor 50 Hz (2900rpm)

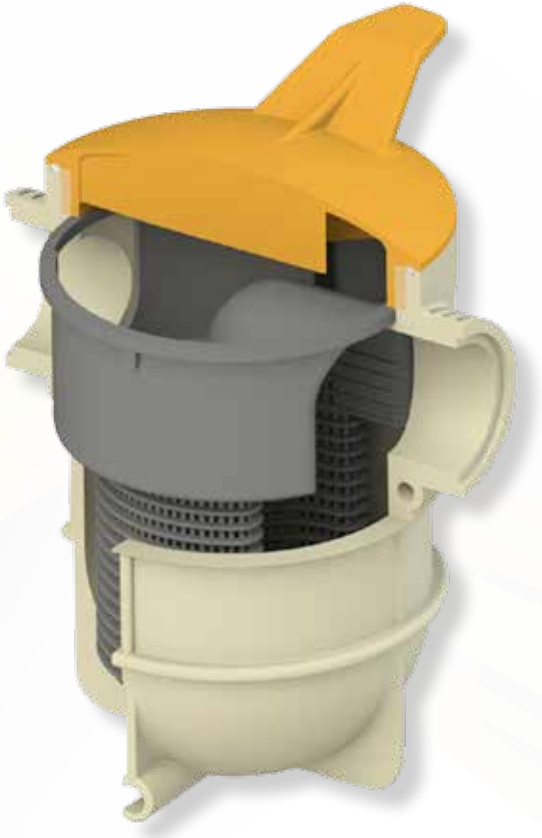
PUMP-PROTECTING BASKET STRAINERS

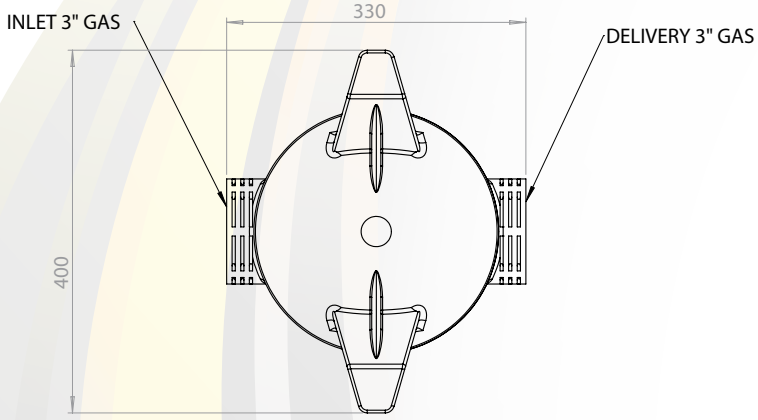
The large passage surface of the basket makes these filters particularly suitable to be installed on the suction head of the pumps, protecting them from suspended solids, impurities and foreign bodies without causing excessive pressure loss.

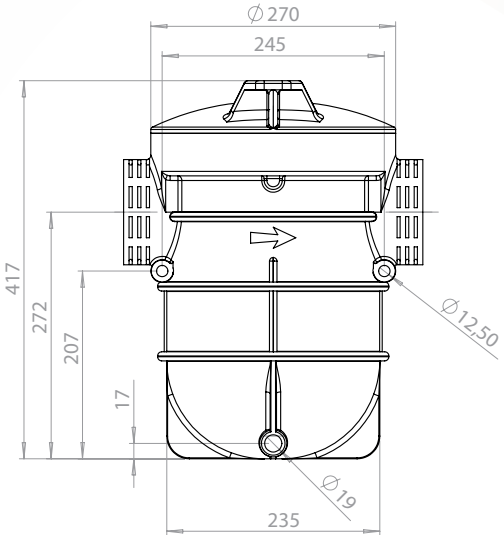
MAIN ADVANTAGES:
- built with PP
- no metal parts
- easy to inspect and remove basket
- operating pressure of 1 bar.

For the chemical industry, water purification, fish farming, galvanizing, tanning, textile, paper, and printing industries and a host of other industrial applications.
Available in connection sizes of 1" ½ F, 2" F, 2" ½ F, 3" F.









Main features:

Available in PP, PVDF e Aisi 316

Inexpensive;

Portable;

Handles corrosive liquids;

Viscosity up to 900 cps;

Available with either electric or pneumatic motor;

Adjustable flow rate (pneumatic version)**;**

No mechanical seals;

Easily dismantled;

Dip tube length = 900 mm or 1200 mm;

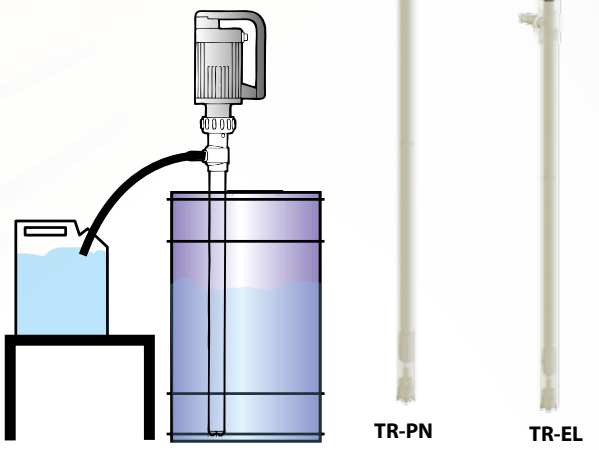
Flow rate up to 90 l/min.

Max. operating temperature:
PP min +3°C/max +65°C
PVDF min +3°C/max +95°C
AISI 316 min +3°C/max +95°C

* Standard electric motor single-phase 50/60Hz

INSTALLATION

TR drum transfer pumps **should only be used with the shaft positioned vertically and the pump immersed in the drum**, whilst **liquid must be present**. Running dry or with air bubbles can cause **damage to the internal shaft guide bushing**.



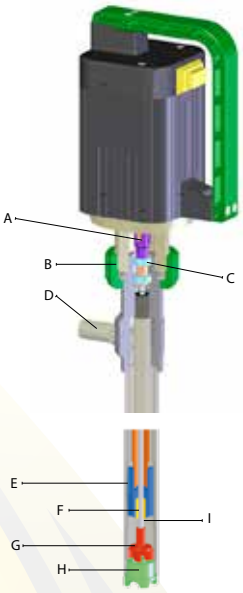
These **portable** drum-transfer immersion pumps are designed to pump corrosive liquids.
Their special shape ensures that any spillages are collected in the drum.
Available with fully-interchangeable **electric or pneumatic motor**, these pumps have an open impeller that allows continuous pumping of clean corrosive liquids having **apparent viscosity of up to 600 cps with 500-watt electric and pneumatic motor (at 20°C) and 900 cps with 800-watt electric motor (at 20°C)**. TR-EL series pumps driven by an electric motor are also fitted with a safety cut-out switch that prevents accidental restart after a power outage.

DESCRIPTION OF THE PUMPS

These drum transfer pumps consist of a dip tube the end of which houses the open impeller that is secured to the driveshaft connected to the pump by means of a ring nut, whilst transmission is provided by a shaft coupling.

HOW IT WORKS

The impeller is integral with the shaft and coupled to the electric or pneumatic motor that makes it rotate, thus creating the centrifugal effect.



A = drive coupling
B = motor ring nut
C = bearing
D = delivery duct
E = dip tube
F = PTFE bushing
G = impeller
H = suction port
I = shaft

COMPOSITION CODES

ex. **TRP1200EL**
TR in PP, shaft in Hastelloy, suction hose length 1200 mm, electric motor

TR	P	H	1200	EL
Pump model	**Material Pump**	**Material Shaft**	**Suction hose length**	**Motor**
TR - TRANSFER PUMPS	**P** - Polypropylene **F** - PVDF **A** - Aisi 316	**H** - Hastelloy **A** - Aisi 316	**0900** (900 mm) **1200** (1200 mm)	**EL*** - Electric motor **PN** - Pneumatic motor

TRP BODY PP

Suction hose	ø 42 mm
Hose clamp	ø 25 mm
Max. temp.	60°C
Total Weight Kg	1,4/1,7
Suct. hose mat.	PP
Shaft material	HASTELLOY or Aisi316
Bushing material	PTFE
Rotor material	ECTFE
Intake port. mat.	PP
Internal parts	PP+PTFE
Lenght	900/1200

TRF BODY PVDF

Suction hose	ø 40 mm
Hose clamp	ø 25 mm
Max. temp.	95°C
Total Weight Kg	1,6/1,9
Suct. hose mat.	PVDF
Shaft material	HASTELLOY
Bushing material	PTFE
Rotor material	ECTFE
Intake port. mat.	ECTFE
Internal parts	PVDF+PTFE
Lenght	900/1200

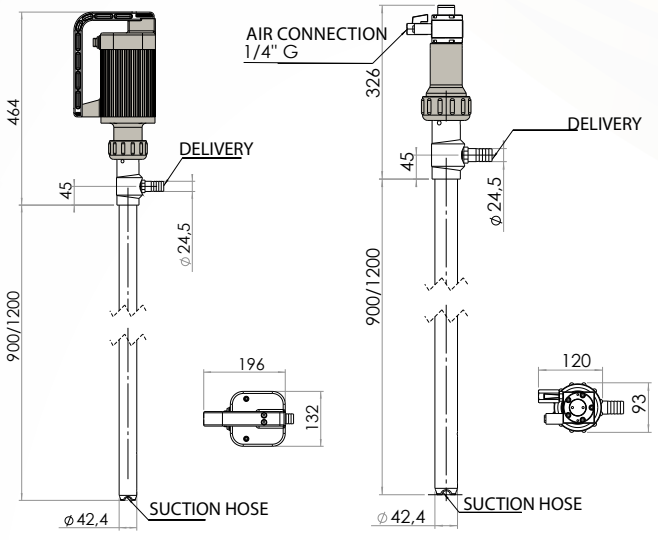
TRA BODY AISI 316

Suction hose	ø 42,5 mm
Hose clamp	ø 25 mm
Max. temp.	95°C
Total Weight Kg	4,3/5,3
Suct. hose mat.	Aisi 316
Shaft material	Aisi 316
Bushing material	PTFE
Rotor material	ECTFE
Intake port. mat.	ECTFE
Internal parts	PTFE+PPS-V
Lenght	900/1200

TRAX BODY AISI 316

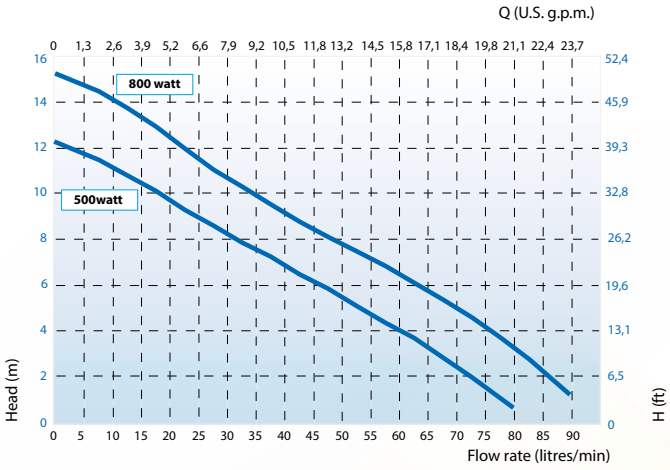
PTB 03 ATEX 400X II1/2 G c IIB T4

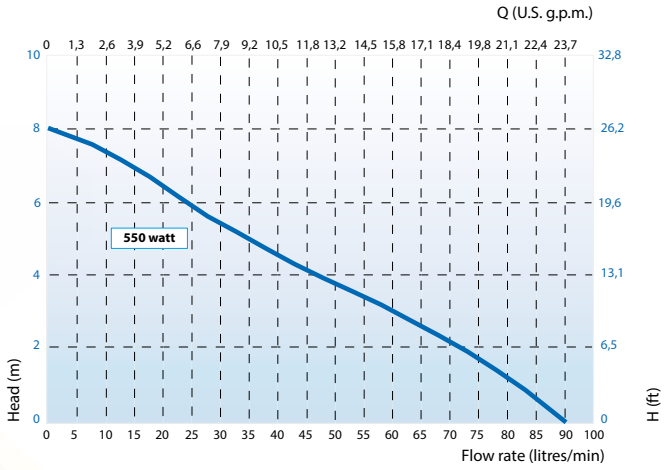
Suction hose	ø 42,5 mm
Hose clamp	ø 25 mm
Max. temp.	95°C
Total Weight Kg	3/4,4/5,3
Suct. hose mat.	Aisi 316
Shaft material	Aisi 316
Bushing material	PTFE
Rotor material	ECTFE
Intake port. mat.	ECTFE
Internal parts	PTFE+PPS-V
Lenght	700/1000/1200



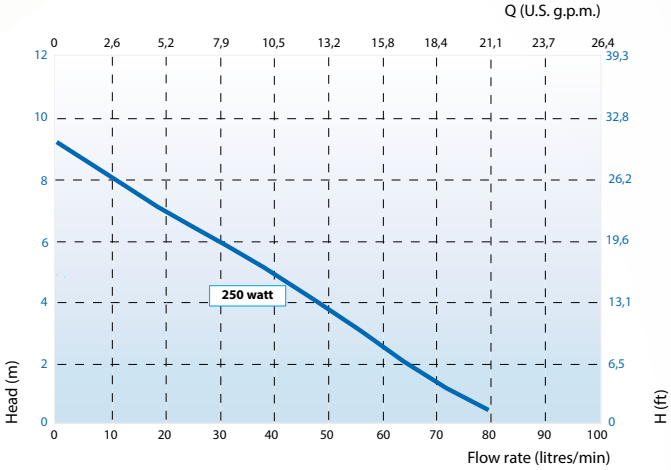
The dimensions shown are in mm

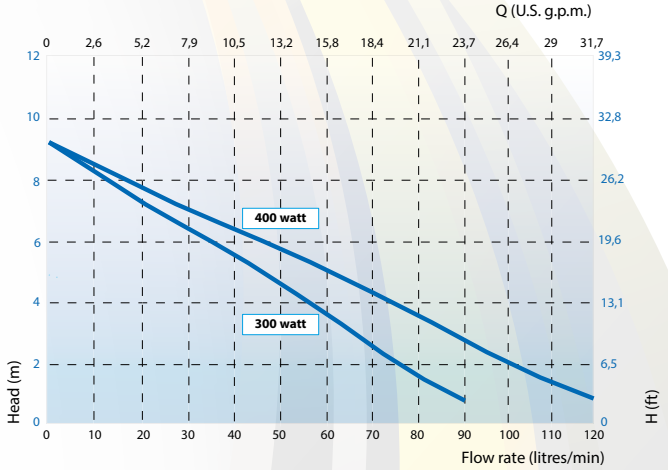
	Motor power	Motor voltage	Motor protection	Motor class	Flow rate	Viscosity	Weight in Kg
 **electric motor 500 watt**	500 watt	230 V/115V* single phase *on request	IP 54	F	80 l/min	600 cps	3,7
 **electric motor 800 watt**	800 watt	230 V single phase	IP 54	F	90 l/min	900 cps	3,7
 **electric motor 550 watt** with earth cable and EX plug Ex II 2 G Ex de IIA T6	550 watt	230 V single phase	IP 54	F	100 l/min	600 cps	11





	Motor power	Flow rate	Viscosity	Weight Kg
 **pneumatic motor**	0,33 HP a 7bar (250 watt)	80 l/min	600 cps	1,1
 **pneumatic motor** Ex II 2 G Ex de IIA T6 (80C°) X	0,40 HP a 6bar (300 watt)	90 l/min	400 cps	3
 **pneumatic motor** Ex II 2 G Ex de IIA T6 (80C°) X	0,54 HP a 6bar (400 watt)	120 l/min	600 cps	-





The curves and performance values refer to pumps spare delivery outlet and water at 20°C.

TR - ACCESSORIES

FLOW METERS PP - PVDF

Flow meters are fitted exclusively to centrifugal or drum-transfer pumps and can measure either the pump's instantaneous flow rate or the total number of litres of liquid delivered. The reading appears on the incorporated display.

DISPENSER PP - ALU - INOX - PVDF

Made in polypropylene, aluminium alloy, stainless steel, PVDF and equipped with delivery trigger.

T-BOLT CLAMPS

High-strength clamps for spiralled hose

DIP TUBE FILTER PP - INOX

It is made in polypropylene and inox and allows fluids to be filtered at the intake.
For TR pumps only.

REINFORCED HOSE

Food-grade PVC construction with metal reinforcement for suction/discharge.

ACCESSORIES

FOOT VALVES

Check valves designed for vertical fitting at the bottom end of the suction pipe on both centrifugal and pneumatic pumps. These non-return valves prevent water from flowing out of the suction pipe so that the pump remains primed at all times.
Sizes available: 1", 1¼", 1½", 2", 3".
Construction materials: PP and PVDF


TROLLEY FOR BOXER PUMPS

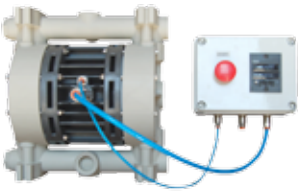
The pump is blocked through fixing holes

STROKE COUNTER

Devices that are fitted to the pneumatic circuit of diaphragm pumps. They can count the number of strokes made by the diaphragms and therefore the number of cycles. This device allows various types of monitoring, e.g. litres of liquid delivered by the pump as a function of its displacement capacity and it also allows the control of the pump running at distance.

BATCH CONTROLLER

Mechanical batch controller with 5-digit display and start/stop button. Pneumatic operation, no electrical connection required.
Designed for BOXER series.



AIR REGULATOR KIT

It is composed of a compressed air filter regulator, fixing bracket, gauge, Elaston tube (5 m) cock and fittings.

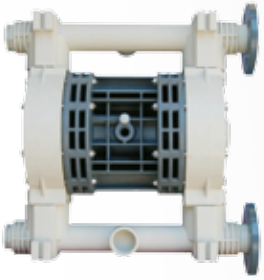
REINFORCING RINGS

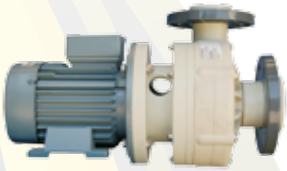
Steel ring to prevent breakage of the manifold.


FLANGE

Avaiable materials:
PP/PVDF/ALU/AISI 316

on request DIN and ANSI






E/EH/F/FR/H/J/RV*

The compact submersed mixers have been designed for a wide range of applications.
These devices can be used independently from the shape and size of the basin. Fields ofapplication: water purification plants, biogas plants, production of liquid feed-stuff.

PVDF

PP

AISI 316

MP*

The peristaltic pump's operation is obtained through a "flow pressure" which acts on a flexible pipe; such flow pressure is exercised by some rollers which turn parallel to the axis, supported by a roller holder. The slow rotary motion of the roller holder support is transmitted by a two or three passages motor reducer at 35, 86 or 141 rpm's, equipped with a 0.09 KW (1/8 CV) MEC-56 electric motor with a continuous service speed of 1450 rpm's.

* For further information, please do not hesitate to contact DEBEM's staff.

INDUSTRIAL PUMPS

petrochemical, food, mechanical, environmental, printing, chemical, painting, galvanic, textile and ceramic industry

PP 201406 - UK

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